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SPECIES AT RISK

MULTISAR

A Multi-Species Conservation Strategy For Species at Risk in the Grassland Natural Region of Alberta

2007-2008 Report

Alberta Species at Risk Report No. 117

Alberta

Alberta Conservation Association

Conserving Alberta's Wild Side

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MULTISAR: A Multi-Species Conservation Strategy For Species at Risk in the Grassland Natural Region of Alberta

2007-2008 Report

Brandy L. Downey, Brad A. Downey, Shannon Frank, Danielle Cross, Craig DeMaere, Darryl Jarina, Richard Quinlan, Joel Nicholson, and Paul Jones

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March 2008

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Richard Quinlan (ASRD-F&W), Barry Adams (ASRD-Lands), Joel Nicholson (ASRD-F&W), Terry Clayton (ASRD-F&W), and Paul Jones (ACA) developed, coordinated, supervised and administered the MULTISAR Program. In addition to the above supervisors, Barry Cole (ASRD-Lands), Trevor Rhodes (ASRD- F&W), Dale Eslinger (ASRD- F&W) and Lance Engley (ACA) directed MULTISAR through the Management Advisory Committee (MAC). The MULTISAR Program was coordinated by Brandy Downey (ASRD-F&W).

Throughout the 2007/2008 program Brad Downey (ACA), Julie Landry-DeBoer (ACA), Terry Hood (ASRD-Lands), Craig DeMaere (ASRD-Lands), Jennifer Carlson (ASRD-Lands), Lynn Fitzpatrick (ASRD-Lands) Darryl Jarina (ASRD-F&W), Christy Sikina (ASRD- F&W), Shannon Frank (ASRD- F&W), Brandy Downey (ASRD- F&W) and Danielle Cross (ASRD-F&W) provided valuable contributions, particularly with respect to field logistics, as well as the development and implementation of the stewardship program and development and implementation of the education and outreach program. Thank you to Leo Dube (ASRD-F&W), and Kim Morton (ASRD-F&W), who were also involved in the wildlife inventories. A special thanks also goes out to Lowell Calder (ASRD-Lands), Darrin Britton (ASRD-Lands), Kevin Redden (ASRD-Lands), and Simon Brookes (ASRD-Lands) for their involvement in the development of the Habitat Conservation Strategies (HCS's).

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MULTISAR is a collaborative effort of three agencies, cooperating landholders, and numerous other participants. It is succeeding due to the co-operative teamwork of all partners. This demonstrates a special open - minded attitude that goes beyond commitment and pride in any one organization, and is indicative of a desire in our society for multi-species and landscape-level conservation.

EXECUTIVE SUMMARY

The MULTISAR Program is managed by Alberta Sustainable Resource Development-Fish and Wildlife (ASRD-F&W), Alberta Conservation Association (ACA), and Alberta Sustainable Resource Development- Lands (ASRD-Lands).

In 2007 MULTISAR expanded its program area from the Milk River Basin to the entire Grassland Natural Region. The 2007-2009 primary goal is to assist landowners and lessees to manage land to benefit provincial and federal species at risk, while maintaining an economically viable operation. To facilitate this, the MULTISAR program developed a Two Year (April 2007-March 2009) Strategic Business Plan which identified six key objectives:

1. To provide an integrated program for the recovery and maintenance for multiple species at risk, rather than the traditional approach of managing for individual species.
2. To develop detailed strategies in areas of highest priorities that incorporates wildlife and range values along with economic needs.
3. To inform Albertans about positive benefits of species at risk, and to encourage measures they can take to sustain species at risk.
4. To engage landholders (owners and lessees) in the development of habitat conservation strategies to address not only the biological needs of wildlife, but also the socio-economic needs of landholders.
5. To provide information to aid in management of industrial development (eg: oil and natural gas) in a manner which provides conservation for species at risk and native prairie landscapes.
6. To assist in the development and integration of the new Grassland Vegetation Inventory (GVI) and apply it to MULTISAR.

These objectives will be met through the three MULTISAR program areas: Habitat Conservation Strategies, Education and Outreach and Species at Risk Conservation Plans.

Introduction

Brandy Downey, Alberta Sustainable Resource Development-Fish and Wildlife Division, Lethbridge, Alberta

Species at risk management initiatives have historically concentrated on inventories and conservation of individual species prioritized through species status processes. As more wildlife become categorized as *Endangered, Threatened*, and *Special Concern*, the challenges of management and recovery become greater. In situations where numerous priority species are present on the same landscape, the challenge is further confounded by management objectives that may conflict between species. While continued attention is needed for individual species at risk (SAR), it has become clear that a more innovative approach is needed to meet the multi-species challenge.

The MULTISAR project was started in 2002 as a way to achieve multi-species at risk management at the landscape level. The project has grown and evolved over the past six years to include range management principles, SAR recovery plan actions and stewardship programs in the Milk River Basin. In 2007, the dawn of a new and exciting period for MULTISAR began as the project moved outside the boundaries of the Milk River Basin to encompass the entire Grassland Natural Region of Alberta.

1.0 History of MULTISAR April 2002-March 2007

The MULTISAR project was conceived in 2002 as a response to the need for multi-species management planning for SAR in the prairie region of Alberta. The idea for the project came from the Prairie and Northern Region Habitat Stewardship Committee. That committee, responsible for allocating the Federal Government Habitat Stewardship Program put forth the suggestion that the Milk River Basin may be worthy of consideration for development of a multi-species approach for conservation of species at risk. Planning proceeded, coordinated jointly by the Alberta Fish and Wildlife Species at Risk Biologist and the Alberta Conservation Association Wildlife Coordinator (both located in Lethbridge). This led to a Habitat Stewardship Project being approved for initiation in April 2002. The allocation of funds from the Habitat Stewardship Program was supplemented with funds from Alberta Fish and Wildlife Division's SAR program and the Alberta Conservation Association. In addition, throughout the first year the Alberta Conservation Association and Alberta Fish and Wildlife Division provided considerable in-kind support.

The Milk River Basin Species at Risk Project, now known as MULTISAR, outlined a process to provide appropriate management on critical parts of the landscape to achieve multi-species conservation. It emphasized voluntary stewardship activities to achieve conservation of SAR. The primary goal of the Milk River Basin Species at Risk Project was to develop an effective process to manage multiple SAR on a defined landscape. The Milk River Basin was chosen because it may contain the highest number of SAR of any definable landscape in Alberta. The cumulative total of *At Risk*, *May be at Risk*, and

Sensitive species in the Milk River Basin is approximately 50 species. This, combined with the relatively small size of the drainage basin (6,776 km^2), led to this landscape being selected for Alberta's first venture into multi-species management for SAR (Figure 1).

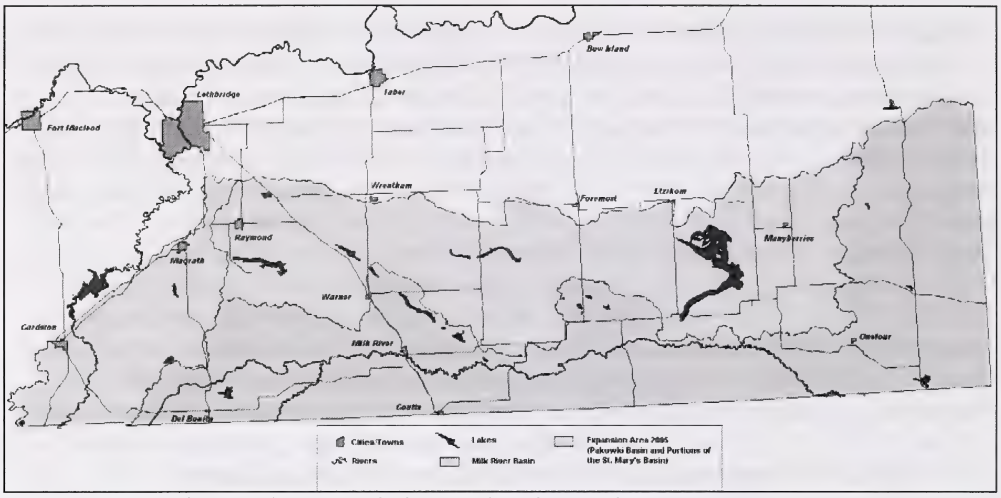

Figure 1: MULTISAR project area within the Milk River Basin.

To achieve the goal of multi-species conservation, a number of specific objectives were identified. They include:

1. To summarize existing information for species at risk in the Milk River Basin.
2. To identify data gaps and design inventories for those species for which data is lacking.
3. To carry out inventories of SAR for which data is lacking.
4. To determine, through a species selection process, priority management species for the project.
5. To identify habitat associations of selected management species, and describe these through Habitat Suitability Index (HSI) Models.
6. To produce a map of the Milk River drainage basin showing relative habitat suitability for each selected management species.
7. To identify portions of the drainage basin which are highly important to individual and multiple SAR (terrestrial and aquatic).
8. To discern the natural landscape processes of importance in the Milk River Basin.
9. To evaluate range management systems for their relative value in providing habitat for SAR.
10. To develop a summary of beneficial management practices for SAR within the Milk River Basin
11. To provide specific conservation and stewardship recommendations for high priority areas of the Milk River Basin.
12. To report results of the project to Milk River Basin communities and conservation groups with an interest in the Milk River Basin.

13. To facilitate partnerships to achieve conservation of SAR through voluntary stewardship actions.

In 2002-2003 project staff, consisting of 2 wildlife technicians, completed wildlife inventories in the Milk River Basin for short-horned lizard (*Phrynosoma hernandesi*), plains spadefoot (*Spea bombifrons*), great plains toad (*Bufo cognatus*), prairie rattlesnake (*Crotalus viridis*), loggerhead shrike (*Lanius ludovicianus*), fish refugia, and raptors. Consultants were hired to complete the bulk of the fisheries work along the Milk River and its tributaries. In the first year of the project Habitat Suitability Index (HSI) models were developed for 15 of the 17 focal species, work began on MULTISAR Beneficial Management Practices and program staff selected the MULTISAR focal species.

In 2003-2004 the basin wide surveys were continued with long-billed curlew (*Numenius amaricanus*) transects, loggerhead shrike transects and ferruginous hawk (*Buteo regalis*) quadrats being added to the workload. The HSI models were completed and a Multi-species Conservation Value (MCV) was developed from these models to identify areas of high priority for multiple SAR conservation. Areas selected by the MCV were targeted for stewardship activities by project staff and the MULTISAR Beneficial Management Practices were completed. 2003-2004 was also the year that the name MULTISAR was first attached to the Milk River Basin project. The term MULTISAR summarizes the concept of multiple species, agencies and landholders working together to achieve SAR management on the landscape.

2004-2005 was a pivotal year for the MULTISAR project. The MULTISAR team initiated its first stewardship program on 62,000 acres of prime MCV land using the MULTISAR Habitat Conservation Strategy (HCS) process (Figure 2). This stewardship project identified the need for a partnership to be formed between MULTISAR and Alberta Sustainable Resource Development Public Lands division due to the large amount of public land on the ranch. This partnership led to an additional funding and management partner for the MULTISAR project which has enabled the project to provide management recommendations for the entire ranch of each MULTISAR steward (public and private land). Range and wildlife surveys were completed on half of the 62,000 acres in the summer of 2004. Basin wide inventories were also continued in 2004-2005.

During 2005-2006 the first two MULTISAR HCS's were completed. For the HCS a method of comparing the range health values of each management unit (a pasture) with the habitat requirements of the individual SAR that could potentially inhabit the pasture was required. An interpolation mapping method was developed that identified the range health of each area of pasture and which species utilized the different range health areas. It was found that different SAR were associated with each of the 5 range health categories ("unhealthy", "low healthy with problems", "high healthy with problems", "healthy" and "very healthy"). Grassland birds, such as the Sprague's pipit (*Anthus spragueii*), occurred in higher numbers in areas of "healthy" to "very healthy" range health. Burrowing owls (*Athene cunicularia*) nested on the edge of "unhealthy" to "low healthy with problems" areas and foraged in areas of "high healthy with problems" or higher. These findings demonstrated that in order to optimize use of an area by a variety

of wildlife species, including SAR, wildlife require a mosaic of native habitats (structure, composition and bare ground). This has emerged as one of the key MULTISAR messages.

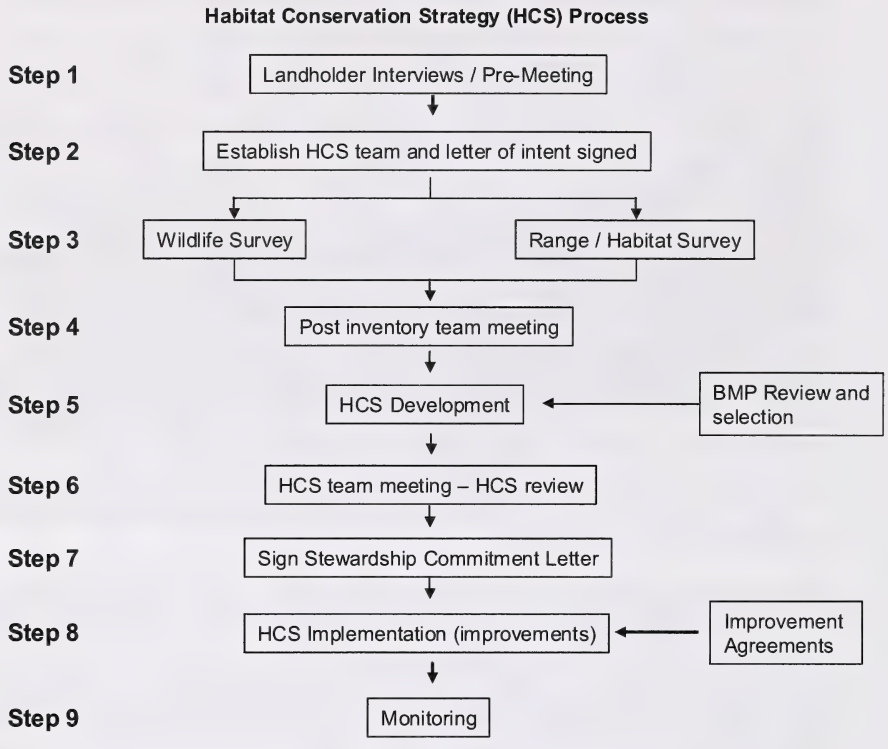

Figure 2: Habitat Conservation Strategy Process used by the MULTISAR Program.

In 2005-2006 the MULTISAR project team grew to include a full time range agrologist in addition to the 2 wildlife specialists. Also a Management Advisory Committee (MAC) was formed by the ACA, ASRD-F&W, and ASRD-Lands supervisors to guide the general direction of the MULTISAR project. The final change in 2005-2006 was the expansion of the project boundaries to include the Pakowki Basin and parts of the St. Mary's River Basin. The expansion included landholders who had land in both the Milk River Basin and Pakowki basin and also accommodated the MULTISAR project absorbing the previous Western Blue Flag Conservation Project.

The stewardship process methodology was finalized and outlined in the 2005-2006 MULTISAR progress report (Downey et al, 2006). The stewardship process includes 5 program areas: Awareness and Education, Inventory, Conservation Planning, Implementation and Monitoring/Evaluation (Figure 3). All future MULTISAR stewardship activities will fall under one of these categories.

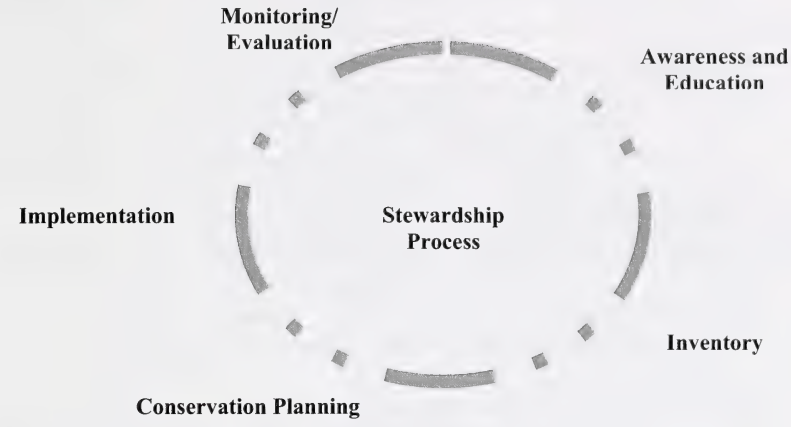

Figure 3: MULTISAR Stewardship Process

In 2006-2007, 3 additional HCS projects were initiated on approximately 120,000 acres of prime MCV native grasslands. Wildlife and range field work was carried out on all three of these ranches, however due to the size of each ranch the projects were spilt into 2 or 3 year initiatives.

During this time the MULTISAR MAC began work on the expansion of the MULTISAR project to include the entire Grassland Natural Region. The idea behind this expansion was to apply the MULTISAR Beneficial Management Practice (BMP's) to a large number of landholders and develop an education extension program for prairie SAR. This was initiated by the development of the *At Home on the Range Guide*, a flagship document detailing how SAR became at risk, the legislation surrounding such species, the myths concerning SAR and methods a landholder could implement to benefit from and support SAR on their land. This document was a collaborative effort between MULTISAR and the Nature Conservancy of Canada.

To facilitate the expansion of the project the MULTISAR MAC invited key managers from Fish and Wildlife, Public Lands (range and land use) and Alberta Conservation Association. The MAC was established to assist in guiding the development of the project. Additionally MULTISAR approached the Alberta Innovation Program (IP) for sponsorship of an expansion project. This led to a 2 year funding commitment from IP that would facilitate the expansion between April 2007 and March 2009.

2.0 2007- The Expansion to the Grassland Natural Region

In 2007 MULTISAR expanded from the Milk River Basin to the entire Grassland Natural Region of Alberta (Figure 4). The expansion led to a review of the MULTISAR vision, goal and objectives. This was completed through the development of a 2-year strategic business plan, applying project management methods (Downey 2007).

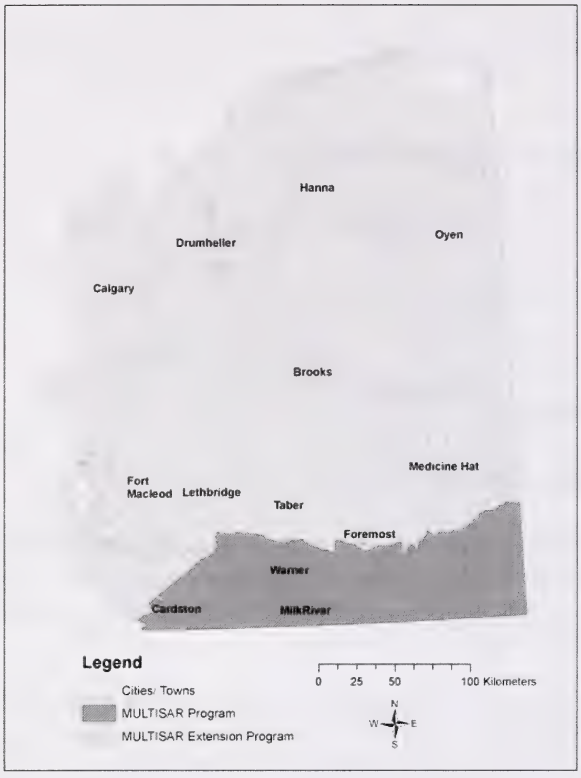

Figure 4: MULTISAR project areas for 2007-2008

Vision: Multiple species of wildlife, including SAR, are effectively conserved at the landscape level, through a process that integrates landuse[1] management with fish and wildlife management principles, and in a manner that may contribute to the sustainability of the rural economy.

Mission: To develop and implement the MULTISAR process which directs conservation of multiple SAR, and associated fish and wildlife, within the Grassland Natural Region of Alberta.

Goal: The goal is to assist landowners and lessees to manage land to benefit provincial and federal SAR, while maintaining an economically viable operation.

[1] Landuse management refers to both range management principals and management of the various land use (including industrial developments) on the landscape.

The MULTISAR goal will be achieved through revised objectives:

1. To provide an integrated program for the recovery and maintenance for multiple SAR, rather than the traditional approach of managing for individual species.
2. To develop detailed strategies that incorporates wildlife and range values with development and economic need in high priority areas.
3. To inform Albertans about the positive benefits of SAR and to encourage measures they can take to sustain SAR.
4. To engage landholders (owners and lessees) in the development of habitat conservation strategies to address not only the biological needs of the wildlife, but also the socio-economic needs of the landholders.
5. To provide information to aid in the management of industrial development (eg: oil and natural gas) in a manner which provides conservation for SAR and native prairie landscapes.
6. To assist in the development and integration of the new Grassland Vegetation Inventory (GVI) and apply it to MULTISAR

3.0 MULTISAR Team Structure

The expansion of the MULTISAR project led to the hiring of several new staff members and the addition of new ASRD and ACA permanent staff members. The MULTISAR team now includes wildlife biologists (4), range agrologists (2), supervisors (3), a project coordinator (1) and a Management Advisory Committee (MAC) (Figure 5). Each member of the MULTISAR team plays a key role in the development, delivery and success of the different MULTISAR initiatives.

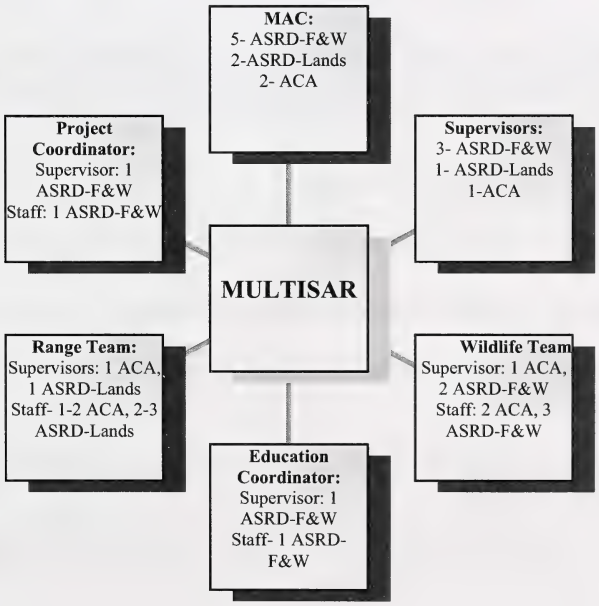

Figure 5: MULTISAR Team Structure

4.0 Project Goals and Objectives for 2007-2008

In 2007-2008 MULTISAR developed a list of key targets for the project. These targets are related to the projects two year objectives and are described in detail throughout this progress report.

1. Develop a 2-year Strategic Business Plan
By June 2007 complete a 2-year strategic business plan detailing the project goals, objectives and work breakdown structure for 2007-2009.

2. MULTISAR Education and Extension Program
Develop an education and extension program for the Grassland Natural Region of Alberta including Beneficial Management Practice's (BMP's) brochures, SAR and grazing fact sheets, presentations and public meetings.

3. Development of a rapid assessment process (species at risk conservation plans (SARC Plans)) for species at risk habitat.
Develop a "rapid assessment process" to evaluate SAR, range and habitat values. Several landowners will be contacted and invited to participate in personal consultation sessions for voluntary BMP implementation. Develop a procedure manual, data sheets, report format and complete 10 trials.

4. Continue MULTISAR Habitat Conservation Strategies in the Milk River Basin
Complete work on 2 more HCS's and implement recommendations from the 2005-2006 HCS plans.

5. Develop a Multi-species Conservation Value for the Grassland Natural Region
Using the expanded HSI models recalculate the MCV for the Grassland Natural Region of Alberta and prioritize areas for MULTISAR stewardship activities.

6. Species at Risk Recovery and MULTISAR
Review all of the SAR recovery actions and identify how MULTISAR is or should be used to address the recovery of SAR in the Grassland Natural Region of Alberta.

7. Review and retool HSI models based on the new Grassland Vegetation Index (GVI) specifications.
Review the HSI models revise calculations based on the new information available in the GVI for testing in Fall 2009.

8. Develop a process to conduct a Socioeconomic valuation for prairie species at risk in the Grassland Natural Region.
Through a knowledgeable contractor the MULTISAR team will develop a valuation of the process for the ecological, societal, and economic values of prairie SAR.

This past year was a very important one for the MULTISAR program. The program continued to succeed with an efficient field season, collecting both wildlife and range data for several HCS's in the Milk River basin. However, the significance of the following year is due to the creation of Species at Risk Conservation (SARC) Plans, the implementation of an Education and Outreach program, and the expansion of MULTISAR into the Grassland Natural Region (GNR). These initiatives allowed the program to reach a new audience and cover a greater area of land in a more time efficient manner. The 2007-2008 year has been a pivotal one for MULTISAR because a new foundation has been laid which will allow for the success of the ever expanding program.

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Downey, B. A., B. L. Downey, R.W. Quinlan, T. B. Clayton, C. L. Sikina and P. F. Jones (eds). 2006. MULTISAR: A Multi-species Conservation Strategy for Species at Risk 2005-2006 Report. Alberta Sustainable Resource Development, Fish and Wildlife Division, Alberta Species at Risk Report No. 108, Edmonton, AB. 88 pp.

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Awareness and Education: 2007-2008 MULTISAR Extension Program

Shannon Frank, Alberta Sustainable Resource Development-Fish and Wildlife Division, Lethbridge, Alberta

1.0 Introduction

MULTISAR continues to expand and improve its education program. In the past MULTISAR did not have the means to maintain a full time extension coordinator and thus was not able to develop a long term education strategy. On June 6, 2007 an extension coordinator was hired to oversee the education and outreach component of MULTISAR.

MULTISAR uses multiple approaches to raise awareness of species at risk (SAR) conservation among each target audience; landholders, school children and the general public. By using this multi faceted method a wider audience can be reached and a diversity of learning types can be exploited. Although hands on experience is recognized as the optimum form of learning and understanding, it is not always possible to create these opportunities due to time and staff restrictions and the large population of the Grassland Natural Region.

Long term thinking is a priority in MULTISAR's education strategy. Recognizing that guaranteed funding may not always be available and that a full time extension coordinator may not always be on hand, there is a need to ensure the most important objectives can still be reached. By working collaboratively with committees and non-profit organizations, training permanent staff to use education materials and creating enduring prairie learning opportunities MULTISAR can ensure its message continues into the future. Partnerships are the key to the success of MULTISAR in regards to awareness and education program.

In the summer of 2007 MULTISAR's target area expanded from the Milk River Basin to include the entire Grassland Natural Region. High priority areas have been identified and MULTISAR's extension program has focused on these areas (refer to MCV chapter).

Landholder education is MULTISAR's first priority because SAR are impacted most by the decisions that this group makes. Ranchers who manage native prairie are the most important target for awareness which is reflected in the emphasis of MULTISAR's extension program. Rural school children are also an important target as they are most likely to become land managers in the future and are going to shape the future for many SAR. Finally the general public, including urban populations, are important to provide support to and demonstrate their shared value of species at risk and other wildlife.

2.0 Landholder Education

2.1 At Home on the Range

In April 2007, *At Home on the Range: Living with Alberta's Prairie Species at Risk* was published and is MULTISAR's flagship educational document. Approximately 3800 copies have been distributed this fiscal year to individual landholders, landholder groups, watershed and stewardship groups, counties, Fish and Wildlife offices, Public Lands offices and Land Management offices. On September 5, 2007 MULTISAR's new introductory brochure was ready for use and 1000 copies have since been distributed with the *At Home on the Range* booklets.

2.2 Species at Risk Conservation Plans

Species at Risk Conservation Plans (SARC Plans) educate producers with SAR habitat on ways they can help maintain or improve this habitat. SARC Plans are a new feature of the MULTISAR program and thus required a great deal of time and effort. This project has been the focus of MULTISAR's extension program since the extension coordinator was hired to create the documents and products required.

The newly created SARC Plans required the development of several new documents including fact sheets outlining the beneficial management practices (BMPs) for each MULTISAR focal species or species group. The following fact sheets are complete and ready for use:

- Grassland Birds
- Burrowing Animals
- Loggerhead Shrike
- Raptors
- Reptiles
- Sharp-tailed Grouse
- Wetland Species

In addition to MULTISAR's focal species, several other fact sheets were created to improve landholder awareness of management practices that impact SAR and how improvements can be made to SAR habitat. These fact sheets include:

- Farm & Hay Land
- Industrial Guidelines
- Grazing Systems
- Cottonwood Forests
- Shelterbelts

In addition to the BMP fact sheets, these documents and other supplies were also custom made:

- Binders for SARC Plans
- Gate signs for SARC Plan recipients
- Certificates of completion for SARC Plan recipients
- Frequently Asked Questions about Species at Risk Legislation
- Funding Opportunities for Agricultural Producers
- Species at Risk Identification Guide (brochure and poster)

SARC Plans were introduced to producers through phone calls, mail outs, presentations, a display and the MULTISAR website. (Table 1)

Table 1: Direct landholder contact summary for 2007-2008.

Communication	Number	Number of Individuals
In-person meeting	12	12
Phone call	43	43
Mail out (individuals)	32	32
Mail out (landholder groups)	95	Unknown
Presentations*	3	62
Display**	1	To be determined

*This includes presentations given to groups made up exclusively of landholders. It does not include presentations made to groups where only a few landholders were present.
**This includes MULTISAR displays set up at various conferences and meetings.

Landholder contact will continue to be made through phone calls, in person meetings and presentations as they were found to be the most effective for first time contact. Other means such as the website and mail outs are more useful for landholders that are already familiar with MULTISAR and require additional information.

2.3 Landholder Meetings

On November 6, 2007 MULTISAR held its first informative evening for landholders in Hanna, Alberta. The event was organized to educate landholders about SAR in their area, to address concerns surrounding controversial SAR legislation and to create opportunities for more education specific to the landholder's property, through SARC Plans. This educational event included three presentations: *Species at risk 101 – Management and legislation* given by Richard Quinlan, *Your local species at risk* given by Julie Landry-DeBoer and *The MULTISAR Story – How ranchers are making a difference at home on the range* narrated by Shannon Frank. The event attracted 12 landholders and all provided very positive feedback. In the future MULTISAR will also host other types of landholder events such as a field school and/or demonstration tours.

2.4 Website

MULTISAR changed its website domain name to www.multisar.ca and has completely updated its contents. The website is currently focused on landholder education and involvement but also provides information about SAR and native prairie ecosystems that would be applicable to all Albertans.

The website will be updated to include MULTISAR's other ongoing education initiatives that focus on youth and the general public. In the future the website will also include a self serve SARC Plan guide for producers in low priority areas or those who wish to perform an assessment on their own. In the future MULTISAR may showcase agricultural businesses on the MULTISAR website that provide habitat for SAR.

2.5 Committee Involvement

MULTISAR's Extension Coordinator is a member of the Oldman Watershed Council's (OWC) Rural Team. The Rural Team provides education to landholders, supports workshops and public meetings and provides funding for water related restoration projects. The team's main initiative is the organization of *Holding the Reins*, a one day event where a variety of speakers present on topics relevant to landholders. *Holding the Reins* is an important opportunity for landholders to stay informed and learn about new projects in their area. The summit was held January 22, 2008 and MULTISAR had a display at the event. Approximately 35 *At Home on the Range* guides and 25 MULTISAR brochures were taken by attendees.

3.0 Youth Education

MULTISAR has developed a 2.5 hour interactive workshop for grade seven students. Grade seven was chosen because SAR are introduced at this level and the science curriculum *Interactions and Ecosystems* can be easily taught using prairie SAR as examples.

3.1 Prairie Conservation Forum - Education Committee

MULTISAR's Extension Coordinator is a member of the Prairie Conservation Forum's (PCF) Education Committee. The committee has taken on a number of initiatives that directly relate to MULTISAR's objectives for youth education.

Members continue to promote the use of the Grasslands Kit for grades seven to nine. The kit includes a poster and a variety of activities that teachers can use in the classroom. The kit is presented to teachers each year at the teacher's convention in either Lethbridge or Medicine Hat.

The education committee is working with *Inside Education* to create field trips, classroom presentations and teachers institutes that deal with prairie education. Currently this initiative is in the exploration stage where potential funders are being sought that will allow long term delivery of such a program.

The committee is also working to create distance learning broadcasts that will allow all students to see and experience the prairie, even if they cannot leave the classroom. Broadcasts are made via the internet and can involve students and expert speakers from around the globe. This technology is being tested by committee members and a test broadcast will be made in the summer.

3.2 Milk River Watershed Council – Community Involvement and Awareness Team

This team is currently coordinating an essay contest for elementary students that will encourage them to think about the importance of the watershed and what it will look like in the future. The winning essay will be read at the annual general meeting in April. The team has also put together an information kit for teachers about the watershed that includes *At Home on the Range*: *Living with Alberta's prairie species at risk.* This kit has been given to schools in the watershed and introduced to teachers by team members. In addition, the team has sent out a request for proposals to have a short video created that will introduce the watershed. Part of this video will outline how important the area is for prairie SAR.

4.0 Public Education

4.1 Interpretive Projects

Interpretive signs were created and are on display at the Etzikom Museum. One sign outlines the partnership between soapweed and yucca moths while the other explains why grasslands are a threatened ecosystem.

4.2 Presentations

The MULTISAR team continues to give presentations to various audiences that educate people from various backgrounds on MULTISAR and its benefits to SAR (Table 2).

Table 2: Summary of MULTISAR presentations

Audience/Recipient	Presentation Date	# in Attendance
Capturing Feed and Foraging Opportunities Conference	12-Dec-07	25
ACA Southern Business Unit and ACA President	23-May-07	17
Milk River Watershed Council Annual General Meeting	4-Apr-07	40
Nature Conservancy of Canada	9-Jan-08	20
ASRD-Prairie Area	23-Jan-08	25
ASRD-SAR Program Team	10-Oct-07	15
ASRD-FWD Wildlife staff	20-Sep-07	15
Hanna Event	6-Nov-07	12
Pasture Management School	28-Jun-07	25
Bow River Basin Council	13-Mar-08	
Chinese Nonxia Grassland Delegation	13-Jun-07	25
PIEOPS Video interview on stewardship, citing MULTISAR as example	28-Jan-08	unknown

5.0 Summary of Activities

- Distributed At Home on the Range to individual landholders, landholder groups, government offices and non profit organizations.
- Created many documents and products to support the development of SARC Plans which are now being completed in the extension area.
- Made landholder contacts through mail outs, phone calls, presentations, displays and in person meetings.
- Held a public meeting in Hanna in November to educate landholders about SAR, address concerns about legislation and create the opportunity for more education through SARC Plans.
- Created a new website with updated contents. The new web address is www.multisar.ca.
- Became a member of the OWC Rural Team. The team organizes *Holding the Reins*, a landholder's summit that provides education on key issues in the basin, provides funding for Environmental Farm Plan workshops and sponsors restoration or demonstration projects.
- Developed an interactive 2.5 hour workshop with short assignments for grade seven science students that is being used throughout the Grassland Natural Region.
- Became a member of the PCF as part of their Education Committee. This committee is working on distance learning broadcasts, promoting the Grasslands Kit and working with Inside Education to create prairie courses for students and teachers.
- Became a member of the Milk River Watershed Council Canada's Community Involvement and Awareness Team. This team has organized an essay contest for students in the Milk River basin, is creating a short video and has created an education kit for elementary school teachers.

- Designed interpretive signs about SAR that are on display at the Etzikom Museum. One features the relationship between yucca moths and soapweed and one explains the endangerment of grassland ecosystems worldwide.
- Delivered 11 presentations this fiscal year to a wide array of audiences, including government staff, non profit organizations, landholders and international delegates.

6.0 Conclusion

MULTISAR's education and awareness program has been expanded and is progressing well. An extension coordinator has been hired and MULTISAR has expanded beyond the Milk River area to the entire Grassland Natural Region. Several new projects have been initiated, the largest of which are the SARC Plans.

The development of the SARC Plans demanded much time and many new documents and products were created. Now that these products are complete more time will be available for the extension coordinator to work on other tasks.

Landholder's are the main target audience of MULTISAR's extension program because they manage the land that provides or could provide habitat for SAR. Therefore the majority of effort is focused on this group and a wide variety of tools are implemented to increase the awareness of SAR among landholders. School children and the general public are also an important focus and MULTISAR, along with its partners, is working on educational materials and projects that target these two groups.

MULTISAR takes a long term approach to all its extension services and considers partnerships and multiple teaching methods to be the key to reaching our objectives. MULTISAR's involvement with several committees will continue and has been very beneficial thus far.

There are many new and ongoing education and awareness projects that MULTISAR is involved with. MULTISAR's extension services have expanded and will continue to improve in the future.

7.0 Future Projects

The MULTISAR team is committed in continuing to educate both landowners and the general public on SAR issues within the Grassland Natural Region of Alberta. Some plans for future projects include:

- Assist in the development of a self serve SARC Plan guide for landholders.
- Continue to improve website and add new features such as a self serve SARC Plan guide and a showcase for businesses that consider SAR in their land management. Features of MULTISAR's education program will also be added.
- Continue giving interactive school presentations. Focus on rural schools and Hutterite Colonies.

- Organize a demonstration tour and field school for landholders.
- Continue to participate on committees and complete projects:
  PCF
    - Work with Inside Education to create prairie field trips, presentations and teachers institutes.
    - Create distance learning broadcasts.
    - Present Grasslands Kit at teacher's conventions in other regions.

  OWC Rural Team
    - Continue to help organize Holding the Reins and give presentation.
    - Continue to ensure MULTISAR brochures are available at Environmental Farm Plan workshops.

  Milk River Watershed Council Canada
    - Help create video for youth about watershed health and current issues.
    - Organize events that raise awareness of prairie issues and educate local residents (especially water and SAR).
- Continue to give presentations to landholder groups, government and non profit organizations
- Continue to distribute *At Home on the Range* Guides and MULTISAR brochures. Collaborate with Alberta Parks to create interpretive walks and displays of SAR.

MULTISAR: Multi-species Conservation Value

Brandy Downey, Alberta Sustainable Resource Development-Fish and Wildlife Division, Lethbridge, Alberta
Paul Jones, Alberta Conservation Association, Lethbridge, Alberta
And
Mike Verhage, Nature Conservancy of Canada, Lethbridge, Alberta

1.0 Introduction

MULTISAR developed a process to achieve multi-species conservation by providing management for habitat across Alberta's Grassland Natural Region (GNR). Ideally all areas on the landscapes would be managed to achieve this goal. However a process was required to prioritize the landscape and direct stewardship activities within the fiscal restraints of the project. The initial step in the prioritization exercise involved the modeling of suitable habitat using the habitat suitability index (HSI) approach developed in the United States (USDI Fish and Wildlife Service 1981, Quinlan et al. 2003). Models were produced from literature reviews, and where possible, from inventory data (Quinlan et al. 2003, Downey et al. 2004). This resulted in habitat suitability model maps (Table 6) being produced for 17 species (Downey et al. 2004). Thirteen of the 17 original MULTISAR models were expanded to the GNR by Alberta Sustainable Resource Development (ASRD) to assist in landuse planning (Table 3). Five of the models were not expanded to the GNR as the species ranges are limited to the Milk River Basin in Alberta.

Table 3: Species for which Habitat Suitability Index models and habitat suitability maps were produced as part of the Milk River Drainage Species at Risk Conservation Strategy.

Common Name	Scientific Name	Species Code	Expanded to the GNR
Sharp-tailed Grouse	*Tympanuchus phasianellus*	STGR	Yes
Ferruginous Hawk	*Buteo regalis*	FEHA	Yes
Burrowing Owl	*Athene cunicularia*	BUOW	Yes
Prairie Rattlesnake	*Crotalus viridis*	PRRA	Yes
Great Plains Toad	*Bufo cognatus*	GPTO	No
Loggerhead Shrike	*Lanius ludovicianus excubitorides*	LOSH	Yes
Prairie Falcon	*Falco mexicanus*	PRFA	Yes
American Badger	*Taxidea taxus*	BADG	Yes
Richardson Ground Squirrel	*Spermophilus richardsonii*	RGSQ	Yes
Eastern Short Horned Lizard	*Phrynosoma hernandesi hernandesi*	ESHL	Yes*
Plains Spadefoot	*Spea bombifrons*	PLSP	Yes
Western Small-Footed Bat	*Myotis ciliolabrum ciliolabrum*	WSFB	No
Sprague's Pipit	*Anthus spragueii*	SPPI	Yes
Weidemeyer's Admiral	Limenitis weidemeyerii	WEAD	No
Swift Fox	*Vulpes velox*	SWFO	No
Long-billed Curlew	*Numenius americanus*	LBCU	Yes
Olive Backed Pocket Mouse	*Perognathus fasciatus*	OBPM	No

* The short-horned lizard was not used in the final MCV calculations due to extreme fluctuations in the formula.

The next step in the prioritization process was to develop a method that would combine the HSI values for each species into a meaningful multi-species conservation value (MCV). Each habitat suitability map could then be combined into a single aggregate map depicting the value of each quarter section in terms of its "multi-species conservation value" (Jones and Downey 2004). Stewardship efforts would focus on areas ranked as highly suitable and would allow for limited funds to be used with maximum benefit to the majority of management species.

2.0 Goals and Objectives

In 2007 MULTISAR expanded the project area from the Milk River Basin to the GNR. The project was expanded to ensure that management tools developed by MULTISAR were available to all landholders, government agencies and conservation groups in the prairie region. The new GNR MCV will be used to identify areas important to multiple species at risk (SAR) throughout the GNR:

- For multiple species conservation initiatives, including Habitat Conservation Strategies (HCS), and Species At Risk Conservation Plans (SARC Plans).
- As key communities for education and extension programs.
- To assist in communication of our priority areas to other conservation groups and government agencies.

3.0 Model Approach

Two separate calculations were completed; the first in the Southeast section of the GNR ranging from the Saskatchewan border west to Calgary and from the town of Coronation south to the US border. This calculation was named the MCV-GNR formula. However this artificial border missed key grassland areas in the fescue foothills sub region of the GNR. A second calculation was completed using the Southern Headwaters at Risk Project (SHARP) models (Blouin 2006) and combined with the first calculation. This calculation was named the MCV-SHARP formula.

3.1MCV-GNR Formula

The multi-species conservation value (MCV) was calculated mathematically by using the weighted average of all selected species in each quarter section within the GNR east of Highway 2 (Appendix A):

$$MCV = (avg \sum_{i=13}^{n} (HSI_{ij} * SS_i * SD_i * HPS_i))$$

Where:

n = the number of species
HSI_{ij} = the habitat suitability index value for species i at location j

SS_i = Species level of endangerment. As the federal and Alberta listing may differ, we used the higher rating of the two.

SD_i = Species distribution within the basin. Species with restricted distributions contribute more to the value than those with a wide distribution.

HPS_i = Species habitat patch size. Species that are restricted to specific small patches of habitat contribute more to the conservation value that wide ranging species.

3.2 MCV-SHARP Formula

To assist in the selection of priority areas by the MULTISAR project in Southwestern Alberta the MULTISAR team utilized the results of the SHARP (Blouin 2006). The majority of the models used in the MCV-SHARP were developed by the same authors as the MULTISAR models and for the most part are identical. Only one new species was part of the SHARP project that is not a MULTISAR focal species; the trumpeter swan.

Due to the similarities between the two projects, the MCV-SHARP formula was adopted by the MULTISAR team to select areas of high priority for the grasslands in Southwest Alberta. However there are 2 key differences between the formulas:

1. The MCV-SHARP and the MCV-GNR differs slightly in the final data layers. The MCV-GNR uses an average of the combined HSI models scores to select high priority areas. Where as the MCV-SHARP uses an accumulated total of the combined HSI models (Blouin 2006).
2. The MCV-SHARP has 5 priority categories (very low, low, medium, high and very high) where as the MCV-GNR uses a 4 priority category system (no, low, medium and high priority).

Due to these 2 differences the models cannot simply be joined. They will be displayed on the same map with the SHARP area clearly defined as a separate area from the rest of the GNR.

The MCV-SHARP area was calculated for 25 m pixel using the following formula (Blouin 2006):

$$MCVj = \sum_{i=1}^{n} \frac{(HSI_{ij} * SS_i)}{n}$$

MCV_j = multi-species conservation value at location j

n = number of focal species (terrestrial and aquatic) in the landscape.

HSI_{ij} = the habitat suitability index value for focal species i at location j.

SS_i = the species weighting value for focal species i.

4.0 Landscape Prioritization

The multi-species conservation value formula was applied to the MULTISAR project area. Calculated MCV values ranged from 0 to 4.75 in the GNR and 0-42.7 in the SHARP area. Values were divided into 4 categories for prioritizing stewardship activities in the GNR (Table 4). The SHARP area was divided into 5 categories prioritizing stewardship areas (Appendix B). Approximately 15 % of the project area is high priority for stewardship activities (Table 5 and 6).

Table 4: Multi-species prioritization ranking in the MCV-GNR Project area.

GNR-MCV Score Range	Stewardship Priority	MCV-SHARP Range (Blouin 2006)	Stewardship Priority (Blouin 2006)
3.00 - 6.00	High	0-10	Very High
2.001 – 3.00	Moderate	10-20	High
1.001 – 2.000	Low	20-30	Medium
0.00 – 1.000	No Value	30-36	Low
		36-42.7	Very low

Table 5: Percentage of MCV-GNR area within the 4 classes of priority for stewardship activities

Category	MCV Value Range	# Quarter Sections	Percent of GNR
No Priority	0.000 – 1.000	178154	68%
Low Priority	1.001 – 2.000	42570	16%
Medium Priority	2.001 – 3.000	34871	13%
High Priority	3.000 - 6.000	4534	2%

Table 6: Percentage of SHARP area within the 5 classes of priority for stewardship activities (Blouin 2006)

Category	MCV Value Range	# Quarter Sections	Percent of GNR
Very Low Priority	36-42.7	10352	60%
Low Priority	30-36	2307	14%
Medium Priority	20-30	1992	12%
High Priority	10-20	1964	12%
Very High Priority	0-10	585	3%

5.0 Conservation Prioritization

Though the MCV is an important prioritization tool for the MULTISAR program, additional criteria was developed to identify areas that are important to SAR that are not recognized by the MCV values. The final listing for prioritizing stewardship activities are:

1. High MCV value.
2. Close proximity to high "MCV" areas.
3. High value for individual SAR.
4. Value as a demonstration/education site.

5. Linkages between protected areas.
6. Opportunity for site rehabilitation or improvement.
7. Protection of Critical Habitat designated by a recovery team.

Areas matching the above criteria were highlighted as either first or second priority in the GNR (Appendix C). MULTISAR will actively solicit interest for the SARC Plans, facilitate public meetings, and provide education opportunities in these areas.

6.0 Literature Cited

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Appendix A: Status, distribution, and patch size of the MULTISAR focal species.

Species and status for which Habitat Suitability Index models and habitat suitability maps were produced as part of the Milk River Drainage Species at Risk Conservation Strategy.

Species	Alberta General Status	Alberta Legal Designation	Federal Legal Designation	Overall HSI Status
Sharp-tailed Grouse	Sensitive	Not Assessed	Not at Risk	Sensitive
Ferruginous Hawk	At Risk	Endangered	Special Concern	At Risk
Burrowing Owl	At Risk	Endangered	Endangered	At Risk
Prairie Rattlesnake	May be at Risk	Data Deficient	Not at Risk	Sensitive
Great Plains Toad	May be at Risk	Data Deficient	Special Concern	May be at risk
Loggerhead Shrike	Sensitive	Threatened	Threatened	May be at Risk
Prairie Falcon	Sensitive	Special Concern	Not at Risk	Sensitive
American Badger	Sensitive	Data Deficient	Not at Risk	Sensitive
Richardson Ground Squirrel	Not at Risk	Not Assessed	Not at Risk	Not at Risk
Plains Spadefoot	May be at Risk	Not Assessed	Not at Risk	May be at Risk
Sprague's Pipit	Sensitive	Special Concern	Threatened	May be at Risk
Swift Fox	At Risk	Endangered	Endangered	At Risk
Long-billed Curlew	May be at Risk	Special Concern	Sensitive	Sensitive

Species Distribution and Patch Size ratings for the 13 species for which Habitat suitability index models were developed as a component of MULTISAR.

Species	Species Distribution	Species Habitat Patch Size
Sharp-tailed Grouse	Wide spread	Wide spread
Ferruginous Hawk	Wide spread	Wide spread
Burrowing Owl	Wide spread	Wide spread
Prairie Rattlesnake	Restricted	Localized
Great Plains Toad	Restricted	Localized
Loggerhead Shrike	Wide spread	Localized
Prairie Falcon	Wide spread	Localized
American Badger	Wide spread	Wide spread
Richardson Ground Squirrel	Wide spread	Wide spread
Plains Spadefoot	Wide spread*	Localized
Sprague's Pipit	Wide spread	Wide spread
Swift Fox	Wide spread	Wide spread
Long-billed Curlew	Wide spread	Wide spread

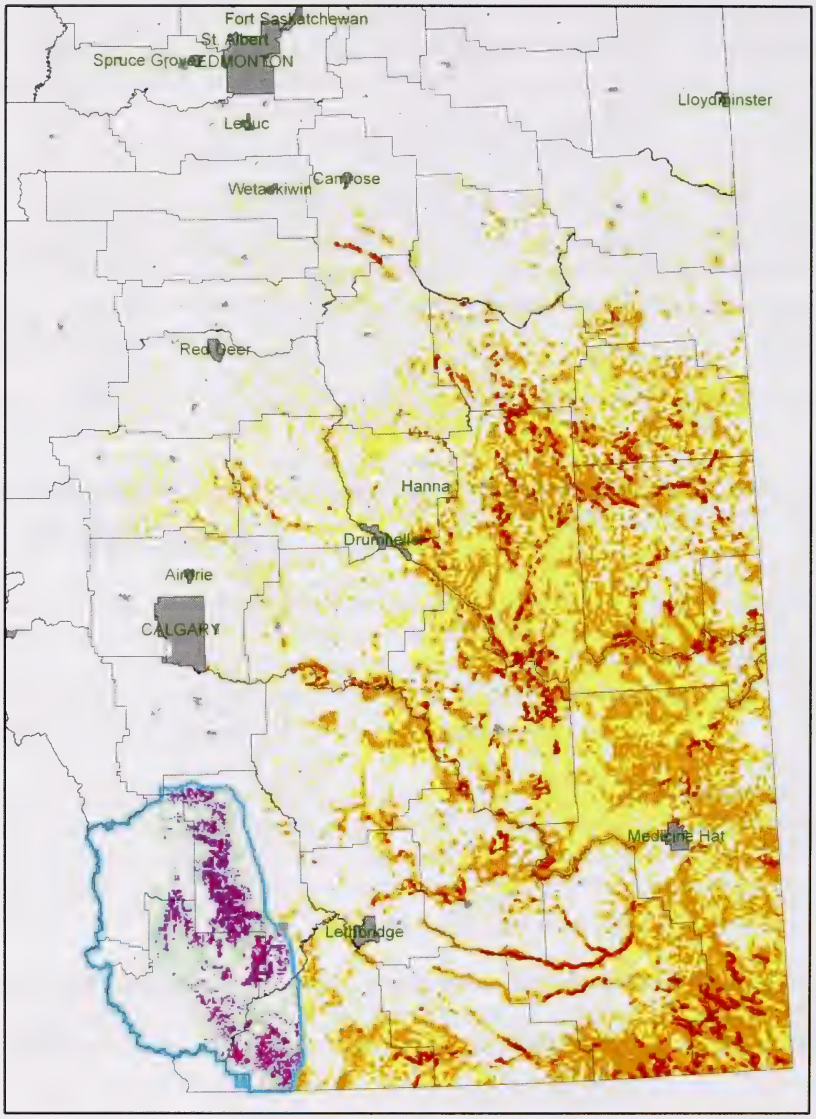
* considered wide spread in Milk River Basin, may be restricted outside the basin.

Weighting values used in calculating the multi-species conservation values within the MULTISAR project area.

Weighting Category	Description	Value
Species Status*	At Risk	4
	May Be at Risk	3
	Sensitive	2
	Not at Risk/ Data Deficient	1
Species Distribution	Restricted	2
	Wide Spread	1
Habitat Patch Size	Localized in small habitat patches	2
	Wide Spread	1

* species status based on the ranking given by COSEWIC

Appendix B: MULTISAR Multi-species Conservation Value for the Grassland Natural Region, October 2007



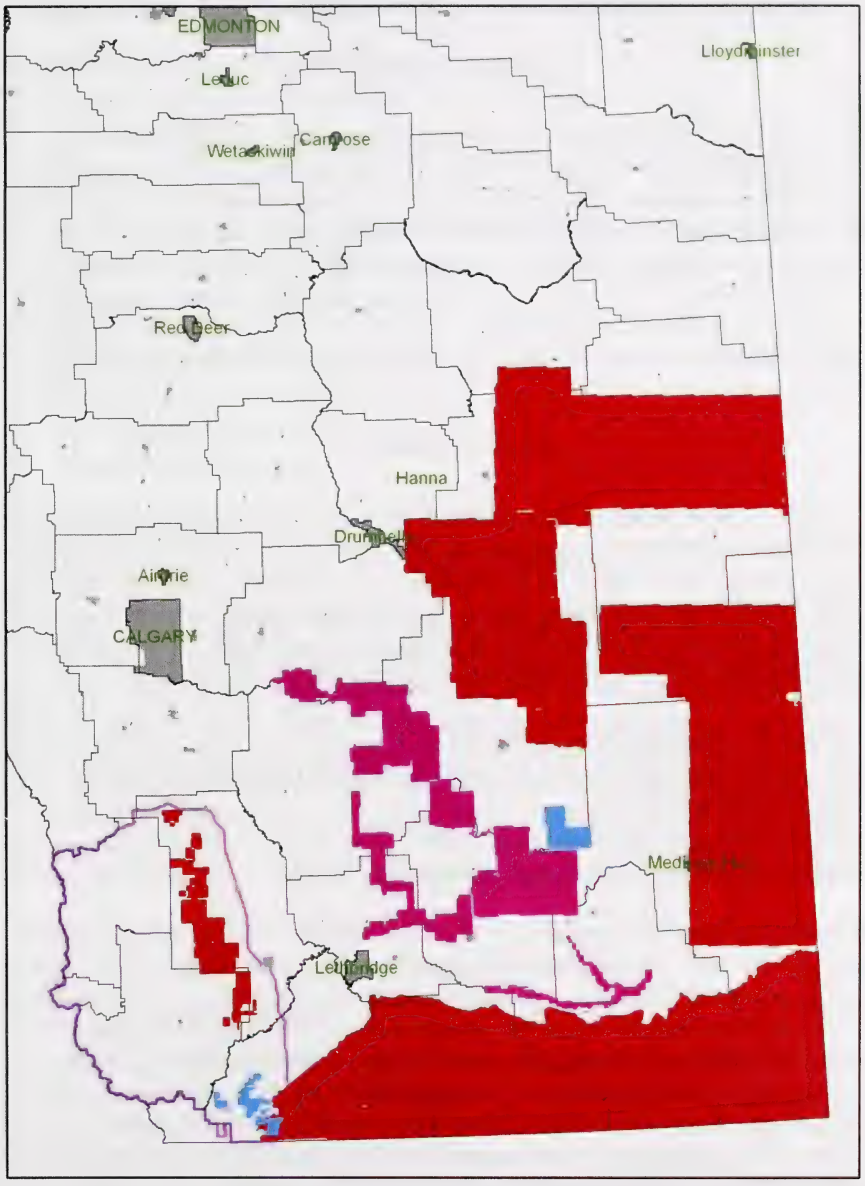
MCV value- Grassland Natural Region

- No priority
- Low priority
- Medium priority
- High priority

MCV- SHARP area

- No priority
- Low priority
- Medium priority
- High priority
- Very High Priority

Appendix C: MULTISAR Priority Areas for the Grassland Natural Region, October 2007



Legend- Priority Areas

First Priority

Second Priority

Existing NGO area

Habitat Conservation Strategies

Danielle Cross, Alberta Sustainable Resource Development-Fish and Wildlife Division, Medicine Hat, Alberta
Brad Downey, Alberta Conservation Association, Lethbridge, Alberta

1.0 Introduction

MULTISAR's Habitat Conservation Strategies (HCS's) strive to balance the conservation needs of multiple species at risk, with the need for healthy rangelands and a sustainable ranching operation on both public and privately owned lands in the Milk River and Pakowki Basins. Although the MULTISAR program has expanded to include the Grassland Natural Region (GNR) of Alberta, the HCS program remains in the Milk River and Pakowki Basins due to cost and time constraints. To address multi-species conservation in the remainder of the GNR of Alberta MULTISAR has developed a rapid assessment program that produces landholder specific Species at Risk Conservation Plans (SARC Plans).

2.0 HCS Process

Success of MULTISAR relies on the creation of partnerships between landholders and government and non-government agencies. Without conservation-minded landholders, large areas of native prairie would likely no longer support many species at risk. For that reason MULTISAR believes conservation is only possible through voluntary action by landholders and agencies. Therefore a team is formed for every MULTISAR HCS consisting of the landholder and representatives from each of the following:

- Alberta Conservation Association (ACA)
- Alberta Sustainable Resource Development (ASRD) - Lands Division – Rangeland Management
- ASRD – Fish and Wildlife Division, and
- ASRD – Lands Division – Land Management

For each landholder that signs up for a HCS, a MULTISAR Letter of Intent is signed (Appendix D). The MULTISAR Letter of Intent lists tasks/commitments made by both MULTISAR and the landholder in a checklist format. The HCS process is both flexible and dynamic as it is guided by the commitments checked off by the landholder. Management objectives and the implementation plan are developed by the entire MULTISAR HCS Team and address all issues identified for that land base. A Stewardship Commitment Letter that acknowledges the HCS and each group's participation in the implementation of any proposed enhancements or management modifications is also signed by the applicable landholder and ACA and ASRD representative following completion of the HCS and prior to funding any enhancements based on HCS recommendations (Appendix E).

Implementation of a MULTISAR HCS results in stewardship of habitat that has high potential to support multiple species at risk. Recovery actions from species-specific

recovery plans and Beneficial Management Practices (BMP's) from the MULTISAR Beneficial Management Practices (Rangeland Conservation Services Ltd. 2004) document are used to guide management and enhancement recommendations within the final landholder HCS report. A completed HCS report contains:

- Project goals and objectives,
- Purpose and application of plan,
- History of ranch,
- Team members (Landholder, ASRD-F&W, ASRD-Lands, ACA),
- Location, climate, soils, and ecological significance of the area,
- Wildlife methods, results and selection of focal management species,
- Range management methods and results,
- Range and wildlife correlations,
- Species specific BMP's,
- Implementation Plan,
- Industrial development guidelines,
- Monitoring program, and
- All necessary mapping.

2.1 Surveys and Inventories

To effectively manage multiple species at risk at a landscape level it is necessary to determine the species present, their habitat requirements, habitat conditions and availability as well as land uses within the area. Initially, the baseline data gathered from wildlife surveys and range health and detailed vegetation inventories is used to develop a landholder specific management plan. Long-term the data collected will be used to measure the effects that enhancements and management changes have had on wildlife habitats and populations, particularly those related to species at risk. Inventories and monitoring allow MULTISAR to gauge which areas are most valuable for species at risk and if any land uses are present that may threaten that habitat and/or species at risk.

Wildlife Surveys

A.) Multi-species Surveys

Multi-species surveys are conducted on all HCS landholders public and privately owned lands. Surveyors walk transects 400m apart, stopping every 400m for 5 minutes between 0500 and 1100 hours. GPS coordinates for the 400m grid pattern are predetermined using (Geographic Information System) GIS to ensure all stops are equally spaced, to facilitate monitoring and to allow for easier entry of all sightings into the Fish and Wildlife Management Information System (FWMIS). All birds, mammals and/or herptiles seen or heard during the 5 minutes within 200m of the stop location are recorded. Key habitat features such as burrows, nests, dens, leks, trees, shrub complexes or ephemeral ponds are also recorded. Important habitat information and wildlife sightings observed in between stops but not previously documented are also collected and GPS coordinates

recorded. Surveys are not conducted in the presence of heavy precipitation or winds greater than 30km/hr.

B.) Amphibian Surveys

Within HCS lands all ephemeral or permanent wetlands potentially supporting northern leopard frog (*Rana pipiens*) and tiger salamanders (*Ambystoma tigrinum*) are surveyed according to Kendell's protocol (2002). No significant precipitation events occurred this past field season to create suitable survey conditions for toads. If significant precipitation events occur, roadside toad surveys are conducted based on protocol developed by Taylor and Downey (2002). This includes surveys of specified routes, 10 of which are now part of the provincial Researching Amphibian Numbers in Alberta (RANA) program.

C.) Reptile Surveys

Short-horned lizard surveys (*Phrynosoma hernandesi hernandesi*) were conducted using the protocol described by James (2002). Surveyors walked a few meters apart across the cooperating ranch with walking sticks to flush lizards during the hottest part of the day in the hottest month of the year. MULTISAR conducts short-horned lizard surveys on any historic sites or potential habitat included under HCS lands.

D.) Mammals

The development of protocol to survey Richardson's ground squirrels (*Spermophilus richardsonii*) was initiated by Alberta Sustainable Resource Development (ASRD), Fish and Wildlife Division (Downey 2003) however the annual surveys themselves are now conducted via MULTISAR with the help of ASRD staff. Richardson's ground squirrel populations and distribution help determine the distribution of other species including the ferruginous hawk (*Buteo regalis*) and the American badger (*Taxidae taxus*).

E.) Bird Surveys

MULTISAR surveys all greater sage grouse (*Centrocercus urophasianus*) and sharp-tailed grouse (*Tympanuchus phasianellus*) leks contained within HCS landholdings each spring. Surveys follow the protocol outlined by Alberta Fish and Wildlife (ASRD 2005).

Electronic call playback surveys were used for both burrowing owls (*Athene cunicularia hypugaea*) and loggerhead shrikes (*Lanius ludovicianus*), in suitable habitat for the specified species. Burrowing owl playback surveys followed the protocol set out by Alberta Fish and Wildlife (ASRD 2005), while the loggerhead shrike surveys followed the survey methods specified by Prescott (2003).

Range Surveys

A.) Detailed Vegetation Inventories

Detailed vegetation inventories were conducted on pre-determined polygons on HCS participating lands. Soil series, range site, and plant community data were gathered for each polygon. Soil Series was collected via Agrasid 3.0 and further investigated during the field visit. Range Site was determined by cross over tables constructed for each soil series (Adams et al. 2005). Plant communities were classified by utilizing the soils, range

site, and a detailed transect. Detailed transects entailed assessing plant species composition along permanent transects established by MULTISAR. Plant species present, species cover, soil exposure, moss/lichen cover and overall vegetation cover within a 20x50cm Daubenmire frame was recorded on field sheets created by ASRD (Robertson and Adams 1990)(Willoughby et al. 2005). Grazing intensity, utilization, distance of transects to water and visual obstruction readings (VOR) were also noted at this time. VOR and height of vegetation were measured with a Robel pole (Robel et al. 1970). A final classification of the plant community was completed to fit the Range Plant Communities and Range Health Assessment Guidelines for the Mixedgrass Natural Subregion of Alberta (Adams et al. 2004) using ordination techniques with the acquired data.

B.) Range Health

Range Health is a measure of the ability of rangeland to properly function ecologically. The assessment takes a critical look at ecological status (species composition), plant community structure, hydrologic function and nutrient cycling, site stability and noxious weeds. Range Health Assessments were conducted in conjunction with each detailed vegetation inventory transect. The range health assessment is representative of stratified polygons throughout the management units (pastures) using the guide set out by Adams et al. (2005). For isolated small polygons, such as those surrounding dugouts, additional range health assessments were completed.

C.) Wildlife and Range Health Correlations

Data gathered from both the detailed wildlife and range health surveys is compiled and entered into ArcGIS for mapping. The maps created display range health and wildlife sightings within the various management units (pastures) for each HCS landholder. MULTISAR staff are then able to visually correlate range health to various wildlife species and habitat features to establish a management plan for each management unit that incorporates BMP's for sustainable ranching and conservation of species at risk.

2.2 Monitoring

Each HCS contains a 5 year monitoring commitment to evaluate the effectiveness of any implemented enhancements. This includes annual or bi-annual monitoring of key wildlife species and/or features (i.e. raptor nests) observed during the HCS wildlife surveys. Surveys should be conducted on similar adjacent lands to determine if BMP's are managing species at risk and their habitat effectively or not and if lands being managed under MULTISAR BMP's provide increased opportunities for species at risk.

3.0 Achievements

To date 4 HCS's have been completed under MULTISAR and 160,000 acres within the Milk River/Pakowki Basin have had wildlife surveys completed on them. Interim reports have also been written for 3 properties with final reports planned for completion by

March 2009. Additional wildlife and range surveys will be conducted on 2 other HCS properties in 2008 with final reports also planned for completion in March 2009.

In addition to the 9 HCS's undertaken by MULTISAR, MULTISAR has assumed responsibilities for 8 more properties through the Western Blue Flag program. The 8 Western Blue Flag project properties cover 12,439 acres. In total MULTISAR is involved in conservation on nearly 195,000 acres within the GNR of Alberta. Through the MULTISAR HCS program ~15,000 wildlife sightings have been submitted to the Fish and Wildlife Management Information System (FWMIS) since 2004 and interest and participation by landholders has increased more than three fold (Table 7).

Table 7: Approximate acres covered by landholders participating in the MULTISAR HCS program.

Year	Landholders	Acres To Date
2004	1	62,000
2005	3	62,200
2006	15*	188,000**
2007	17	195,000

*8 of these landholders were incorporated through the Western Blue Flag program.
** Approximately 12,500 acres of this are from the Western Blue Flag program.

During the 2007 field season wildlife surveys were completed on ~ 55,000 acres and range health surveys were completed on ~30,000 acres under the MULTISAR HCS program. As a result of these surveys 16 active burrowing owl burrows, 7 active ferruginous hawk nests and 1 active swift fox (*Vulpes velox*) den were observed. Short-horned lizards were observed over the past field season for the first time since 2001 by MUTLISAR. HCS surveys resulted in numerous other species at risk observations in 2007 including loggerhead shrike, sprague's pipit, baird's sparrow, short-eared owl (*Asio flammeus*), upland sandpiper, long-billed curlew, prairie rattlesnake (*Crotalus viridis viridis*) and pronghorn (*Antilocapra americana*).

4.0 Implementation of HCS's and Enhancements

During 2007 multiple enhancements and management changes were facilitated though MULTISAR. These projects included adjustments to livestock stocking rates and on/off pasture dates, creation of off-site water facilities, construction of artificial nesting structures and reclamation of native grasslands. Two nest poles for ferruginous hawks were donated and installed by Altalink in areas with dense ground squirrel populations to provide improved nesting opportunities. This same property also had 3 hydrants, roughly 2.5 km of water pipeline and a portable watering unit purchased and installed. The water pipeline and portable watering unit allow the HCS landholder to utilize pastures more efficiently and potentially create burrowing owl habitat for owls observed in the area.

Three additional portable water systems have been purchased and will be installed in the summer of 2008 on three separate HCS participants' landholdings. One of these was purchased to protect an area with northern leopard frog (*Rana pipiens*) habitat and brassy minnow (*Hybognathus hankinsoni*) populations, while the other two will be used as an

aid to improve riparian health and potentially create burrowing owl nesting habitat (Table 8.)

Table 8: Summary of MULTISAR HCS enhancements and improvements completed each year.

Year	Range Management[3]	Burrow/Den/Nest Structure	Reclamation and Seeding	Water Structure Development or Improvement
2004[1]	-	-	-	-
2005		-	-	1
2006[2]	8	-	3	7
2007	-	2	1	4
Total	**8**	**2**	**4**	**12**

1. Field work was not yet completed in 2004, therefore management strategies and enhancements had not yet been determined.
2. MULTISAR assumed responsibility for Western Blue Flag program and related enhancements. Of all the enhancements recommended 15 were implemented. These included 4 fencing projects, 3 vegetation control projects, 2 reseed projects and 6 watering developments or improvements.
3. Can include such things as change in stocking rate, on/off dates, fencing, weed control etc. Maintenance of pasture grazing for grazing regime, often times done already provide info on why is right

MULTISAR staff continued work on the native seeding project established last year and initiated work on a second native seeding project. Completion of these 2 projects will result in returning up to 260 acres of cultivation and/or tame species to native grass habitat, funding permitting.

5.0 Future and Conclusion

Five more HCS's could be completed in 2008-2009. During this time work on the 2 seeding projects will continue, the 3 portable watering systems will be incorporated into the grazing regime and at least one more portable water system may be purchased, resources permitting. Overall the MULTISAR HCS has had another successful year and continues to thrive. Even though MULTISAR is moving towards a more rapid assessment method with the establishment of the educational stewardship based Species at Risk Conservation (SARC) Plan program, the HCS program remains an important component of MULTISAR. The more detailed data sets gathered during HCS assessments can be used to monitor species at risk and conservation efforts as well as make species and habitat correlations. Fortunately through the hiring of 3 additional staff members MULTISAR was able to begin work on 5 more HCS's that otherwise would not have been possible. Continued funding of the MULTISAR program will ensure the completion of these 5 additional HCS's and strengthen the species at risk data gathered to date by MULTISAR. Summarized below is a list of objectives for 2008-2009:

- Continue to work on the 3 HCS's started in 2006 (~82,000 acres).
- Initiate work in spring 2008 on the 2 additional confirmed HCS's (~6000 acres).
- Complete field work on all 5 HCS's over the 2008 field season (~ 88,000acres).

- Complete final HCS planning, report write ups and implementation schedule for 5 HCS's (March 2009).
- Continue to implement improvements on the first 4 HCS's as identified in the individual strategies. This includes, continued work on the native prairie reseeding projects (2), purchasing and installation of portable watering units (3-5), and protective fencing for lone trees (1-5) etc.
- Determine and organize the monitoring plan for the first 2 HCS's, to be initiated in 2009-2010.
- Evaluate the success of the program and determine future direction of the HCS program within MULTISAR.

Initially, HCS's were the method MULTISAR used to promote conservation and stewardship. Today HCS's continue to be a cornerstone in the multi-species conservation efforts of the MULTISAR program.

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Appendix D: Letter of Intent

LETTER OF INTENT TO PARTICIPATE IN THE MULTISAR STEWARDSHIP PROGRAM

Ranch:_____ Size(acres):_____ Home quarter: 1/4____ Sec___ Twp___Rge____
(Please attach map of ranch)
This letter is to set forth the intended partnership between (landholder(s))
_____and the MULTISAR stewardship program (represented by Alberta Conservation Association (ACA) and Alberta Sustainable Resource Development (ASRD) to implement a stewardship program on _____(ranch)

Within this partnership the following tasks will be completed by the MULTISAR project for _____ranch.

- ❑ Complete a full habitat assessment.
- ❑ Complete a full wildlife inventory.
- ❑ Results of inventories will be put in the Alberta Government's Fish and Wildlife Management Information System (FWMIS) with appropriate buffers for Species at Risk.
- ❑ Provide information on habitat requirements of Species at Risk.
- ❑ Provide species historical information for the above ranch from FWMIS.
- ❑ Participate as a member of a Habitat Conservation Strategy team to develop a Habitat Conservation strategy for the above ranch.
- ❑ Assist with the implementation of any habitat improvements as outlined in the Habitat Conservation Strategy (pending funding availability).
- ❑ Assist in the developments of small improvement projects depending on funding.
- ❑ Sign a habitat improvement agreement outlining the roles and responsibilities of each partner prior to the onset of completing improvements.
- ❑ Sign a Stewardship Commitment, which is mutually agreed to by all parties.

Within this partnership the following tasks will be completed by the landholder(s)_____.

- ❑ Allow the MULTISAR project and/or consultants reasonable access to the above ranch for the purposes of habitat and wildlife inventories.
- ❑ Allow reasonable public access requests.
- ❑ Participate as a member of a Habitat Conservation Strategy team to develop a Habitat Conservation Strategy for the above ranch.
- ❑ Within the framework of the Habitat Conservation Strategy team, assist in the implementation of a Habitat Conservation Strategy.
- ❑ Assist with the implementation of any habitat improvements identified in the Habitat Conservation Strategy (funding availability).
- ❑ Work with the MULTISAR team on small improvements, which show measurable benefits to species at risk.
- ❑ Sign a habitat improvement agreement outlining the roles and responsibilities of each partner prior to the onset of improvements.
- ❑ Follow recommendation outlined in the Habitat Conservation Strategy.
- ❑ Display a recognition sign at a visible site.
- ❑ Allow the project to be used as a demonstration site.
- ❑ Sign a Stewardship Commitment, which is mutually agreeable to by all parties.

Landholder_____ Date:_____

SRD-FW_____ Date:_____

SRD- Lands_____ Date:_____

ACA_____ Date:_____

Alberta
Public Lands & Forests

Alberta Conservation Association
Conserving Alberta's Wild Side

Alberta
Fish & Wildlife

Appendix E: Stewardship commitment form.

STEWARDSHIP COMMITMENT

The XXX Ranch MULTISAR Plan represents a collaborative effort involving the landholder, Alberta Conservation Association, Alberta Sustainable Resource Development, and other partners. The plan uses detailed wildlife and range evaluations to provide a multi-species management plan for application at the full ranch level (private and public land). Range and wildlife priorities have been determined for individual pastures. MULTISAR Beneficial Management Practices were used to develop specific management recommendations for priority management species and their habitats.

This MULTISAR Plan provides the rancher with information and guidance to incorporate species at risk into his ranching operation. It provides resource management agencies with the information needed to effectively manage for wildlife and range in an important part of their jurisdiction. The MULTISAR Plan provides the primary conservation partner, Alberta Conservation Association, with the baseline information needed for ongoing monitoring. This monitoring is important in determining the success of the MULTISAR Plan in achieving habitat goals.

A MULTISAR plan is the culmination of a voluntary cooperative process involving three key partners (landholder, government agency, and conservation partner), and several other consultants and individuals. A landholder (owner or lessee) who has a MULTISAR Plan has enjoyed the benefit of personal consultation sessions with resource experts, has received detailed range and wildlife information regarding his ranch and has participated in decision-making towards management of crown land resources on his land.

This Stewardship Commitment is the final stage in the MULTISAR process. It is a statement of commitment to implement the MULTISAR Plan for five years. It represents a joint declaration of confidence that this MULTISAR Plan will be beneficial to all parties. It ratifies the need for ongoing consultation, including annual meetings, and a commitment towards adaptive management to ensure the plan remains effective. It endorses a 5-year review to revise and renew the XXX Ranch MULTISAR Plan.

STEWARDSHIP COMMITMENT STATEMENT

The signatories agree to implement the MULTISAR Plan on the private and public lands of the XXX Ranch for 5 years from XXXXXX to XXXXXX.

Representative of the XXX Ranch:

_____

Representative of Alberta Conservation Association:

_____

Representative of Alberta Sustainable Resource Development:

MULTISAR Species At Risk Conservation Plan Assessment Procedure

Brandy Downey, **Shannon Frank, and Darryl Jarina**, Alberta Sustainable Resource Development-Fish and Wildlife Division, Lethbridge, Alberta

1.0 Introduction

Over the past 5 years MULTISAR has developed in depth Habitat Conservation Strategies (HCS) in areas of high priority for multiple species at risk (SAR). This process has been successful at conserving SAR habitat at the landscape level. However the HCS process is extremely time consuming and costly and is not an appropriate method to conserve SAR habitat on a larger scale. With the expansion of the MULTISAR project in 2007, the MULTISAR team was required to develop a process of identifying key SAR habitat throughout the Grassland Natural Region as well as reach out to numerous landholders on a much larger scale. To attain this goal and to maximize time and expenses, the Species At Risk Conservation Plan (SARC Plan) was designed.

MULTISAR SARC Plans are designed as a rapid assessment version of the MULTSIAR HCS. The goals of the SARC Plans are to:

1. Apply methods and knowledge learned from the MULTISAR Habitat Conservation Strategies to the entire Grassland Natural Region of Alberta.
2. Recommend and assist with applying MULTISAR Beneficial Management Practices (BMP's) to applicable areas for each of the MULTISAR focal species and key species at risk habitat types.
3. Track changes in attitudes towards species at risk.
4. Track management changes and results.

The actual SARC Plans assessments are divided into 4 steps; identification of priority lands, preliminary analysis, site assessment, and the MULTISAR SARC Plan. The details of each of these steps are described below.

2.0 SARC Process

2.1 Step 1: Identification of Priority Lands

MULTISAR expanded the Multi-species Conservation Value (MCV) to the entire Grassland Natural Region. Using the MCV, MULTISAR identified and selected priority landscapes and communities to approach for SARC Plans. For a detailed explanation of the MCV and MULTISAR priorities please refer to page 53.

2.2 Step 2: Conduct preliminary analysis for entire ranch (public and private).

Completion of a SARC Plan by a landowner is completely voluntary. Once a landholder has decided to have a SARC assessment completed for their ranch the preliminary analysis is initiated. Preliminary work is conducted in the office prior to the SARC field assessment. It would include a review of all the current wildlife and range data for the ranch in question. This may include the following:

1. Fisheries and Wildlife Management Information System (FWMIS) database search: search the entire ranch area for all documented wildlife sightings. This should be used as a base to determine potential management species for the ranch.

2. MCV and Habitat Suitability Index (HSI) model Review: Review the maps to determine potential wildlife species occurrence on the ranch. This will not only help determine the potential management species but also the habitat structures to look for during the field assessment.

3. Review of SAR distribution maps: Review the home range maps of the key management species to determine which species may occur on the ranch.

4. GIS mapping exercise: Review all existing and available imagery to determine where key wildlife structures may exist. The map should include an air photo, an outline of the property, and locations of all SAR from FWMIS.

5. Review applicable species at risk recovery plans: The actions in these plans may be used in the recommendations section of the SARC Plans. Observers should have these action plans in mind when determining the applicable Beneficial Management Practices (BMP's) for management species.

6. Communication with local range agrologist and Fish and Wildlife officers: Call or email the local range agrologist to determine current management objectives on the lease lands and ensure there is no conflict with potential SARC Plans assessment recommendations. In addition, contact the local Fish and Wildlife officers to establish if they have any management concerns.

All information gathered during this preliminary assessment would be used to determine available wildlife habitat on the ranch, as well as determine which MULTISAR focal species will be highlighted during the landholder consultations and subsequent report. The entire preliminary process takes approximately half a day to complete for trained SARC Plan observers, but this may vary depending on ranch size.

2.3 Step 3: SARC Assessment

A) Landholder Consultation

The next step in the assessment is a one on one visit with the participating landholder. During this visit, a review of the ranch history, current ranch management, and future goals is conducted. Also the SARC observer would investigate the landholder's current knowledge of SAR (fears, legislation, locations, etc). This is done through a standardized questionnaire developed for the program which is given during the first consultation with the landholder (Appendix F).

B) SARC Field Survey

The SARC field assessment completed for each ranch is not designed as a complete inventory. The assessment relies on the ability of the field observer to accurately assess wildlife habitat availability. The surveyor is a trained wildlife/range MULTISAR staff member who has the ability to identify key habitats for SAR. All staff members have previously been involved with inventories completed on HCS lands and are able to identify wildlife habitat based on a few key characteristics. The SARC assessment surveys rely on the identification of general habitat types and observer designation rather than detailed inventory results (Appendix F). During this field component, any incidental SAR observed are documented.

C) Timing of SARC Assessments

The SARC assessments are designed so that they do not need to be completed during the key wildlife field season since they do not rely on detailed wildlife inventories but on the ability of observers to identify specific habitat characteristics that are associated with MULTISAR's focal species. Assessments are not conducted when there is snow on the ground or in adverse weather conditions and are only conducted during daylight hours.

D) GPS Locations

All key features are marked and saved for mapping later. GPS locations are recorded for each site in UTM NAD 83.

E) Site Pictures

Pictures are taken at key locations on the ranch and are used as reference points for future monitoring (by the landholder). Pictures are printed and one copy is included in the final SARC Plans while another copy is kept with MULTISAR in the office for reference.

F) Datasheets

The SARC data sheets are designed to focus the observer on key habitat features and assist in determining management species for the ranch. Several of the questions are

answered or partially answered during the preliminary assessment and are broken down in Appendix F.

G) Data Entry and Analysis

Landholder Questionnaire: Questionnaires are divided up into 4 sections. The information collected from the landholder will be divided into 2 parts. The data collected in Section 1 of the questionnaire will be used in the SARC Plans report and will not be stored in any database. The information collected in sections 2-4 of the questionnaire will be entered in the MULTISAR Landholder Database for reference and future analysis. Data may be used to measure changes in landholder knowledge about SAR, and to determine current opinions and understanding on SAR. This will be monitored and updated by the MULTISAR Extension Coordinator.

H) SARC Analysis

The results (fence lines, wetlands, habitat structures, historical sightings, etc.) of the SARC Plan assessments will be mapped using the available habitat features in Arcview. The full ranch area will then be examined to determine if the species selected during the SARC Plan assessment are:

- Compatible with each other: The observer should ensure that wildlife conflicts will not result by recommending conflicting species in the same pasture or in near by fields.
- Representative of the available habitat: The goal of the SARC Plan assessment is not to drastically change the species which may occupy a pasture. The species recommended should either already have existing habitat in the area or habitat could be created through tweaking of the current management practices.
- Compatible with existing Recovery Plan Actions: If a provincial or federal recovery plan exists, applicable actions from the recovery plan should be included in the recommendations to the landholder.

I) Review of BMP's

The MULTISAR BMP's should be reviewed to determine if the current management system is appropriate for the recommended management species. If it is not, the SARC Plan observer will select recommended changes to the current management practices from the MULTISAR BMP's that reflect the needs of the species and the landholder based on the habitat available. This may require consultation with other MULTISAR staff to determine the exact grazing practices and/or suggested improvements for the pasture. These management recommendations will be generalized and will not be as specific as those in the HCS reports. They may include grazing system recommendations or in/out dates but not specific stocking rates or implementation plans.

2.4 Step 4: MULTISAR Species At Risk Conservation Plan (SARC Plan) Report

The standardized report highlights the data collected for and during the SARC assessment. The plan is divided into the following sections:

1) Introduction: This is a standard formatted section. It will be the same for every SARC Plan assessment and details the objectives and goals of the SARC Plan assessments, methods and outcomes. The only changes will be the name and location of the ranch. Also included here is a reference to an overall map of the ranch which was produced using GIS and available imagery prior to the field survey.

2) Results: This section details all habitat features/structures found on the ranch and any management issues which may influence wildlife on the ranch. This section includes a map showing a rough location of permanent and semi-permanent structures.

3) Recommendations: This section is in a table format similar to the improvement table found in each of the HCS reports (Table 9). It details the pasture, the recommended species and the appropriate BMP's applicable to the ranch. These recommendations are generalized guidelines/suggestions for tweaking the current management regime in order to benefit the species in question and may include: suggested grazing regimes/timing, general stocking rates (high, med, low), improvement suggestions (fencing, watering sites), industrial/disturbance guidelines and others. Recommendations should be ordered starting with the most important/priority BMP's.

Table 9: Example recommendation table a for SARC Plan using the ferruginous hawk MULTISAR BMP's.

Pasture and target species	BMP recommendations	Methods	Benefits
NW pasture-Ferruginous Hawk	1. Protect current nesting sites	1. Beaver wrap lone trees to protect from cattle.	-Will protect standing nesting structures, provide prey for the ferruginous hawk and will minimize the chance of human caused abandonment.
	2. Provide heterogeneous grass heights throughout pasture.	2. Disperse saltlick and watering sites to better distribute cattle throughout pasture.	-Could result in better range health through improved distribution of cattle across pasture, and increased grass growing times.
	3. Minimize disturbance surrounding active nests between May 1-July 1.	3. Minimize disturbance around the nest site through rotational grazing (cattle off pasture between May and June. Implement industrial guidelines and setbacks provided to you.	

4) Wildlife Conflicts: If there are any wildlife conflicts not dealt with in the BMP table then a secondary section of wildlife conflicts will be included. This will detail how to mitigate or solve existing wildlife conflicts on the ranch. This may include deer browsing, Richardson's ground squirrel control, and predator depredation.

5) Conclusion: A standard conclusion is included in each SARC Plan assessment.

6) Delivery of Report: A second meeting will be arranged between the landholder and the MULTISAR staff member to deliver the report. The plan will be 5-7 pages in length and will be presented to the landholder by the original SARC observer. During this meeting the MULTISAR staff member will help the landholder develop a generalized implementation plan for the recommendations that the landholder is willing to accept.

MULTISAR will not be providing any of the funds to change management or implement the suggested improvements directly. Where possible the MULTISAR staff member will assist the landholder fill out any grant forms that may be applicable to them and provide contact information to other conservation agencies which may be willing to assist them implement their MULTISAR SARC Plan. The MULTISAR staff member will review the available grant programs, funding agencies and potential conservation agencies that may be interested in the SARC plan prior to the second meeting with the landholder. The contact information, application forms, MULTISAR BMP Brochures and any other related information will be left with the landholder.

7) Contact and Monitoring Plan:

- The landholder will be contacted annually for updates on the implementation and results of management changes. The landholder is also asked to report any SAR sightings at this time. A contact number is left with the landholder so that any questions that may come up during the implementation of the plan may also be addressed by a MULTISAR staff member.
- An annual MULTISAR newsletter will be mailed out to all MULTISAR participants to update them on the program.
- There will also be communication with other conservation groups who have assisted MULTISAR SARC Plan participants with the implementation of their plans. The methods for monitoring will depend on the other conservation groups' records and willingness to share information.

3.0 SARC Plans Assessment Trial Process

The SARC assessment process was evaluated during the 2007-2008 fiscal year. The trial program was aimed to complete approximately 10 SARC Plans within the Grassland Natural Region. This was deemed enough effort to allow the staff and landholders to rate the process and determine what changes need to be made prior to commencing a larger SARC program.

4.0 Results of the SARC Trial Process

The MULTISAR team initiated the SARC program in two key areas identified by the MULTISAR Multi-species Conservation Value (MCV); Hanna and the Milk River Basin. Forty six landholders were contacted by MULTISAR staff in these two regions and the results of these contacts are as follows:

- Milk River – Out of 14 people phoned, 9 of them were spoken to directly (left messages for others). Eight (89%) agreed to meet with us and five (62%) agreed to the program.
- Hanna – Out of 32 people phoned, 17 were spoken to directly (left messages for others). Eight people (47%) agreed to meet with us and five of these (62%) agreed to the program.

*Two additional SARC Plans have been completed but were not in either of the two areas listed above. Also, seven SARC Plans have been completed and four are waiting for appropriate survey conditions to occur in the Hanna area to allow for completion of SARC Plans. Of those four, three have already filled out the questionnaire.

Even with a small sample size, there is a difference in landholder's reception of the program between the two areas. MULTISAR has been active in the Milk River basin for five years, because of this many of the landholder's have heard of MULTISAR and are more willing to meet and learn about the program. In the Hanna area, MULTISAR is just beginning to establish and landowners are not as willing to meet with staff one on one, primarily because they do not understand the extent of the program and have expressed fears over co-operating with the government on SAR issues. However, once MULTISAR staff does meet with landholders the percentage of people agreeing to the program is the same in both areas. The only difference is in getting past the original phone call to allow for a face to face meeting in the Hanna area.

A total of seven SARC Plans have been completed between the two priority areas. The following BMP's were recommended through the program:

1. Grassland Birds – 5 (24.25 quarter sections = 3880 acres)
2. Amphibians – 5 (28.5 quarter sections = 4560 acres)
3. Sharp-tailed grouse – 4 (16.75 quarter sections = 2680 acres)
4. Loggerhead Shrike – 3 (3.0 quarter sections = 480 acres)
5. Raptors – 1 (2.5 quarter sections = 400 acres)
6. Burrowing owl – 1 (1 quarter section = 80 acres)

Through the MULTISAR SARC program, landholder's knowledge, use of BMP's and attitudes towards SAR were measured using a standardized questionnaire (Appendix F). The results of 10 separate questionnaires showed that attitudes toward SAR were generally positive. However these questionnaires are given to landholders who agree to participate in the program and therefore may not adequately represent other landholders' views. Questionnaires were left with a few landholders who are not willing to take part in the program, all of which have declined to fill out the questionnaires at this time.

Appendix G gives a list of tables summarizing the answers to key questions on the questionnaire. Results show the attitudes and knowledge of landholders towards species at risk. The majority of people believe that SAR are important and are beneficial to their operation. They believe that land for SAR should be provided by landholders and that they are willing to share species locations with MULTISAR as well as to make management changes to improve species at risk habitat. Only about half the landholders believed that SAR should be protected by law and even less were aware of any SAR legislation or believed that legislation was a benefit to SAR. Only a small portion of people currently make adjustments for SAR because they have no idea what species they may be able to provide habitat for.

Most landholders are already using important BMP's such as maintaining native prairie and using rotational grazing. However, there are still many important practices that are rarely used, like fencing off vulnerable habitat features, limiting grazing around wetlands, and delaying fieldwork until wildlife nesting is complete. The reason for the low frequency of use may be because there is a lack of knowledge on the part of the landholder and additionally many of these BMP's are thought to have an undesirable cost associated with implementing them.

5.0 Conclusion

Overall SARC Plans have been successful so far. In the Milk River basin there has been a positive response to the program, primarily because the MULTISAR name is more recognizable in this area. Things have been moving a bit slower around Hanna primarily because MULTISAR is new to the area. That being said, those who have agreed to meet with MULTISAR staff have generally had positive responses. Even those who said no still seemed to be at least partially interested in the program.

Myths surrounding SAR and the loss of land or management control to the government are still common in the Hanna area. Almost all landholders who were approached about the program were somewhat tentative about sharing information with the government, fearing that once government agencies had information of SAR occurring on their land, they would take control of their land. This is similar to the experiences MULTISAR had in the Milk River Basin when the program was in its infancy. In addition, the majority of people contacted near Hanna explained their love of wildlife but simply believed that they were doing a good enough job without government interference.

MULTISAR will continue to work in the Hanna area to help dispel the myths surrounding SAR and the government. There is an incredible opportunity for the program to establish in this area and given time some of those who already said no to the program will likely become interested. The landholders who have agreed to the program in the Hanna area have expressed how important they think the program is and have provided names of others in the area that they believe may be interested. Some have even stated that too much door knocking and phone calling might not be the best approach and may even scare some landholders off. Therefore, the approach is to work with a few people in

the area and let the word spread between landholders, all the while maintaining a presence in Hanna until more people are familiar with the MULTISAR name.

The field work section of the SARC assessment is taking longer than originally expected. Some suggested changes to speed up the process include taking general locations versus exact (GPS) locations of key features (burrows, shrub communities, etc) unless these features are critical (owl burrows, ferruginous hawk nests, etc). Completion of the landholder questionnaire during the first meeting and working in qualified teams to blitz ranches that are large or close together will also help to speed up the process. These small changes will help ensure the maximum numbers of SARC Plans are completed, without any loss of quality. Completion of the final reports has been slower than expected because it is a new process and many people may be involved on any given report, including several biologists, agrologists, and the landholders. Information is needed from all of these sources and therefore it may be some time before all of the needed information can be collected and compiled.

6.0 SARC Plans Future Goals and Directions

- Complete 50 SARC Plans or a minimum of 70,000 acres for landholders in priority areas as defined by the MCV in this report by March 31, 2009.
- Continue to track landholder attitudes and knowledge of SAR through the SARC Plans database.
- Identify universal knowledge gaps or negative attitudes towards SAR and develop appropriate educational materials or presentations to address these issues.
- Develop a self serve rapid assessment process using the MULTISAR website to facilitate landholders outside the MULTISAR priority areas.
- Re-evaluate the success of the SARC Plans in March of 2009.

Appendix F: SARC Plans assessment forms and Questionnaire

Ranch:

Landholders:

Location of homestead:

Year:

Observers:

In office prep work (please attached all prelim work to forms):

- ☐ HSI/MCV check
- ☐ FWMIS search
- ☐ Range Benchmark site
- ☐ GIS map
- ☐ Airphoto
- ☐ Communication with range agrologist
- ☐ Review of SAR recovery plans
- ☐ Other_____

Suggested report date and meeting:

I. SARC Assessment Landholder Questionnaire

Date: _____ Landholder: _____ Ranch:_____

Section 1: History, Land Base and Usage

1. How long have you owned/operated this ranch? (If inherited how long has family owned ranch)?

2. What is the total land base (*i.e.*, acres) of your operation?

3. What acres do the following contribute to the land base of your operation?
   i. Native prairie
   ii. Seeded pasture
   iii. Hayland
   iv. Cropland
   v. Ranch house/buildings

4. Do you currently have/follow a grazing management plan? Y N

   i. Who developed your current plan?

   ii. If yes, please explain details of plan (type of grazing regime, stocking rates, in/out dates?

   iii. When was the last time you reviewed your management plan?

5. Which of the following best characterizes current grazing management on your operation?

   a) *Continuous grazing*: Placing livestock on pasture (or a field) in spring and allowing them free access to all or most of the pasture for the entire grazing season until removed in fall.

   b) *Rotational grazing*: Rotating livestock between pastures (fields) through the grazing season, or making use of cross-fencing to divide the pasture

into paddocks and rotating livestock between these paddocks or fields through the grazing season, providing a period of rest to the unoccupied pastures or paddocks.

6. Are grazing records kept for livestock movements between pastures?

    a) No
    b) Yes

    c) If yes
        i. How are these records kept? (Check all that apply)
            1. Days in a field
            2. Animal units (AU)/acre or acres/AU
            3. AU per month (AUM)
            4. Other_____

        ii. Are livestock weights or AU equivalents (AUE) noted (ex., 1 bull = 1.5 AUE)?
            1. No
            2. Yes

7. How do you determine the amount of time livestock spend in each grazing unit? (If different methods are used for different types of pasture, please indicate which type of pasture they are used for.)

    i. Predetermined number of days
        1. How many days?_____
    ii. Forage height
        1. At what forage height are livestock moved?_____
    iii. Percent of pasture utilized
        1. At what percent of utilization are livestock moved?_____
    iv. Other method_____

8. Do you make changes to your management based on external factors (examples include drought, industrial developments etc)? Please list examples.

9a. Have you ever had a range health assessment completed on any of your land?
Yes – private land Yes – public land No

9b. Was it done by a professional? If yes, who?

Section 2: Wildlife and Species at Risk

1. Do you agree that species at risk are important to maintaining biodiversity and a healthy, functional prairie ecosystem? Y N

2. Do you agree that species at risk are beneficial to your operation? Y N
Please explain your opinions.

3. Do you agree that habitat for species at risk should be voluntarily provided by landholders through programs like MULTISAR?
Y N

4. Do you agree that your land is important for providing habitat for species at risk and/or other wildlife? Y N

5. Do you agree that species at risk should be protected by law? Y N

6. Have you heard of federal and provincial legislation such as the Species At Risk Act (SARA) and the Alberta Wildlife Act? Y N

7. Do you feel this legislation is a benefit to you or a detriment?
Benefit Detriment Not Sure

8. Do you currently make adjustments in management for species at risk on your operation?
Y N If yes, please give examples.

9. Are you willing to share the species and/or locations of species at risk with MULTISAR? Y N

10. Are you willing to make changes to your current management plan in order to enhance habitat for species at risk? Y N
If not, please explain why not

11. If you wanted to consider species at risk and other wildlife on your ranch what are the problems that make it difficult for you to do that?

- ☐ Do not know what to do
- ☐ Too expensive to make changes
- ☐ Too time consuming to make changes
- ☐ Don't have any species at risk on my land
- ☐ Don't want any species at risk on my land
- ☐ Am not interested
- ☐ Other? Please specify.

12. Do you have any idea what SAR you might be able to provide habitat for? (From talking to neighbors, seeing SAR on landscape, etc). Y N
If yes, which ones?

13. Do you currently practice any of the following Beneficial Management Practices?

- ☐ Maintaining native prairie
- ☐ Rotational grazing if appropriate
- ☐ Fencing off natural water bodies for part of the season when vulnerable
- ☐ Delaying field work with machinery until after wildlife has nested
- ☐ Not disturbing nesting sites, burrows, etc when occupied
- ☐ Using flushing bars
- ☐ Maintaining patchy areas on the range
- ☐ Seeding fall seeded crops
- ☐ Maintaining shelterbelts and natural trees
- ☐ Limiting chemical use around water bodies or leaving buffer zones
- ☐ Removing exotic weeds
- ☐ Limiting environmental disturbance from oil and gas development
- ☐ Restoring wetlands/not draining wetlands
- ☐ Limiting grazing around wetlands
- ☐ Resting pastures after use to restore forage
- ☐ Keeping land under permanent cover
- ☐ Avoid planting invasive tame grasses next to native range
- ☐ Using zero or minimal tillage

14. What would motivate you to consider wildlife and species at risk on you land?

- ☐ Personal pride in being a steward
- ☐ Recognition that I am a steward
- ☐ Financial benefits
- ☐ A more sustainable operation
- ☐ Doing my part for the future
- ☐ Other? Please specify.

Section 3. Future Plans and Direction

1. Do you currently have a 5 year, 10 year or longer plan for your ranch?

2. Are your current future management plans flexible? Y N

3. Do you plan to sell or deed (to family) the ranch in the next 5 years?

4. Will you take into account MULTISAR beneficial management practices into your current management plans? Y N

5. Would you be willing to report back to MULTISAR on a regular basis (annually)on any of the following:

   - ☐ on the location of wildlife species,
   - ☐ changes in management practices
   - ☐ Implementation of BMP's
   - ☐ the positive/negative results that have occurred since adopting MULTISAR BMP's
   - ☐ On changes to range health

Section 4: Ranch Tour and Map

On the map provided please draw pastures, fence lines, stock watering sites, and corral placement, areas of historical importance (tipi rings. (Please send to landowner in advance of meeting).

II. SARC Assessment Datasheet

Ranch: Landholder(s): SARC observer:
Date:
Pictures taken (location and description):
GPS coordinates for Pictures:

1. Preliminary list of target focal species for ranch (based on office prelim work)

    a.
    b.
    c.
    d.
    e.

2. Habitat connectivity: please check one (based on airphoto and on the ground observation)
    - ☐ Part of a large complex of native habitats
    - ☐ Part of a mosaic of native and non-native habitats
    - ☐ An isolated island of native habitat
    - ☐ Other:_____

2b. Estimated % of native habitat present on ranch._____

3. What natural subregion is the ranch located in?_____

4. Are keystone species (Richardson's ground squirrels, badgers) present?
Y N (explain)

5. Check available natural permanent and semi-permanent habitat structures.

- ☐ Burrows
- ☐ Trees
- ☐ Cliffs
- ☐ Shrub complexes
- ☐ Sagebrush
- ☐ Ephemeral ponds
- ☐ Permanent ponds
- ☐ Riparian
- ☐ Badlands
- ☐ Sand Dunes
- ☐ Cottonwood Forests/stands/bluffs (circle one if applicable)
- ☐ Other_____

Comments:

Habitat Structure	Pasture	Northing	Easting	Comments

6. Incidental species

A) Sightings or signs of Wildlife species:

B) Native Plants in areas/weeds

7. Are there any current wildlife management issues?

8. Are there any current range management issue? (weeds, excessive erosion) include locations or draw on map.

9. What is the level of industrial activity? Describe the type and effects of activities. Are there any proposed developments that should be acknowledged?

- ☐ Low
- ☐ Medium
- ☐ High

10. General comments or questions about the site, explain? Include legal land description, key habitat features, native grasses, weeds, and concerns in each pasture.

11. Based on the habitat available which species/groups of species would you select as key management species in this pasture?

Pasture	Species	Legal Land	Comments

III. Datasheet Breakdown

Question 1: Selection of focal species: The observer reviews the MULTISAR list of focal species before entering the field and selects the appropriate species to focus on based on the range maps, MCV values and the suspected habitat feature available (native prairie availability, cliff nests proximity etc). This list helps the observer focus their efforts in the field.

1. ferruginous hawk (*Buteo regalis*)
2. swift fox (*Vulpes velox*)
3. American badger (*Taxidea taxus*)
4. burrowing owl (*Athene cunicularia*)
5. prairie rattlesnake (*Crotalus viridis*)
6. prairie falcon (*Falco mexicanus*)
7. western small-footed bat (*Myotis ciliolabrum*)
8. short-horned lizard (Phrynosoma hernandesi)
9. sage grouse (*Centrocercus urophasianus*)
10. Sprague's pipit (*Anthus spragueii*)
11. long-billed curlew (*Numenius americanus*)
12. plains spadefoot (*Spea bombifrons*)
13. great plains toad (*Bufo cognatus*)
14. northern leopard frog (*Rana pipiens*)
15. sharp-tailed grouse (*Tympanuchus phasianellus*)
16. loggerhead shrike (*Lanius ludovicianus*)

Question 2: Landscape type: How well the available landscape is connected may influence what and how many different SAR will occur there. This question will be answered prior to entering the field based on the mapping and airphoto products. However changes may be made to the estimates based on the field observations. There are 4 categories to choose from within the SARC assessments.

1. **A large complex of native habitats:** These areas will support a greater diversity of species. Examples of this would include many of the ranches within the Milk

River Basin. Key characteristics of these landscapes include: low amounts of disturbance, minimal roads/access points, limited conversion of native grasslands, and grazing is often the main landuse.

2. **Part of a mosaic of native and non-native grasslands**: These areas will include a mix of native rangelands, tame pastures, and limited cultivation/haylands. Grazing will remain the main landuse but the habitat will be more fragmented than that of the first category. While this landuse type may still support a diversity of wildlife including SAR, it may limit which SAR will occur there. Patch size of the native grasslands, the level of disturbance tolerated by the species and the habitat structures available all play a role in species occurrence.
3. **An isolated island of native habitat**: These areas will be dominated by cultivation, urbanization, acreages with limited tame or native pastures within. The habitat will be heavily fragmented severely limiting the species that could occupy the area. This will again depend on the patch size of the native grassland and the structures available.
4. **Other**: If the area does not fall into any of the above categories please describe and classify the habitat available. Example: All tame pasture with no remnants of native habitat may still be useful to certain SAR.

Question 2 b**:** Estimate the percent of native habitat available for use by wildlife species. This may be done prior to entering the field using GIS imagery or using the answers to the landholder questionnaire.

Question 3: What is the natural subregion and community type? This determination will assist the observer in identifying significant changes in the vegetation cover and to determine potential use by wildlife species.

Question 4: Observes should note if keystone species such as the Richardson's ground squirrel are present (or habitat features such as burrows) are present. These species play a key role in the life cycles of many of the MULTISAR focal species

Question 5: This section identifies the potential permanent and semi-permanent structures available for wildlife use. Observers should take detailed notes on the availability of each structure, if it is currently being used (or has been used within the last year). Sites are recorded on the map developed prior to the field assessment. Upon identifying new important wildlife habitat structures, a GPS coordinate is taken at the site. This will assist with the mapping component afterwards.

Permanent and semi-permanent habitats are defined as such:

Permanent sites are locations that are used annually by wildlife for breeding, nesting, or denning. They include:

1. Snake hibernacula: Annual winter denning site for prairie rattlesnake, bullsnake, and garter snakes.
2. Grouse leks: Annual breeding sites for sage grouse or sharp-tailed grouse.

3. Permanent and ephemeral ponds/waterbodies: These waterbodies carry out several important functions within the prairie ecosystem including; breeding, rearing, and/or overwintering sites for northern leopard frogs, great plains toad and plains spadefoot.
4. Nesting cliffs: Annual nesting sites for prairie falcons, ferruginous hawks, and peregrine falcons.
5. Short-horned lizard habitat: habitat for short-horned lizard as defined by the HSI Model.
6. River floodplains: Important for multiple species throughout the year. Examples include; nest sites for songbirds and birds of prey and shrub/tree cover for mammals. Floodplains are also important for increased bank stability and are attributed to maintaining and improving water quality and fish habitat.

Semi-permanent habitats are not as closely associated with recognizable landscape features, but are used by species that demonstrate high fidelity to their nest or den areas. These sites are generally used from year to year but changes in mates, prey densities, weather, disturbance, or loss of nesting structures may result in abandonment. Examples of these sites include burrowing owl burrows and ferruginous hawk nest sites as defined by the associated Recovery Team and Plan.

Question 6: This section is a minor part of the SARC assessment. Wildlife sightings, or direct signs of wildlife (scat, feathers, tracks etc) observed during the site visit are recorded. This section may be used to help determine the SARC Plans management species for the pasture; however it is not vital to the overall evaluation. Sightings will be entered into FWMIS.

Question 7: Current wildlife management issues should be identified prior to making any management recommendations. Some of these will be identified during the pre-assessment questionnaire with the landholder. However others may only be identified by trained field personnel. Any potential wildlife/human conflicts that are suspected to be occurring or have a potential to occur are noted. Examples of this include: over utilization of the riparian zone, human caused slumping, developments near permanent or semi permanent habitats, cutting or loss of shrubs or trees, depredation by ungulates etc.

Question 8: Range management issues such as erosion, or weed infestations should be documented. These problems may indicate larger problems with the current range management but also may affect the use by wildlife. Major issues should be reported to the local Public Lands or Special Areas range agrologists.

Question 9: The amount and intensity of industrial developments on the ranch/landscape will affect the use of the ranch by wildlife. The intensity will be measured using the following categories.

1. Low- Limited amounts of disturbance or older sites (powerlines, gas wells) with few to no access points/roads existing.

2. Medium-Characterized by several sites with a small number of developed access points. The sites are generally short term projects and include seismic and low footprint disturbances.
3. High- Characterized by numerous sites or large scale operations (oil rig) with a significant number of trails/roads fragmenting the habitat. Sites which need to be assessed on a regular basis by the company would also fall under this category.

Additionally the observer should record the type of activities and list the potential effects on the wildlife or the wildlife that could potentially use the area. Observers should also note if there are any proposed developments for the area.

Question 10: Any general comments on the wildlife habitat should be noted here. This could include comments on good habitat management, or questions for the landholder on the current management.

Question 11: Based on the determined habitat available the observer will select the key management species for the pasture. Management species will be determined on a combination of the observed habitat, the range maps for SAR, HSI values and observer opinion.

Appendix G: Landholder Questionnaire Summary

Questionnaire Results based on 9 questionnaires.

Percent of Landholders (%)	Answer to MULTISAR SARC questionnaire
90	SAR important for healthy ecosystem
70	SAR beneficial to operation
80	SAR habitat should be provided by landowners
90	their land is important for SAR habitat
55	SAR should be protected by law
50	aware of SAR legislation
20	legislation detriment to themselves, 30% say benefit, 50% not sure
50	currently have SAR on their land
80	willing to share SAR locations with MULTISAR
30	currently make adjustments for SAR
100	willing to make changes in management if doesn't affect their bottom line
30	have some idea of SAR habitat they may be able to provide

BMP's currently used by Landholders prior to the completion of a SARC Plan.

Current BMP's	
Freq.	BMP
100%	Maintaining native prairie
80%	Rotational grazing if appropriate
30%	Fencing off natural water bodies for part of the season when vulnerable
20%	Delaying field work with machinery until after wildlife have nested
70%	Not disturbing nesting sites, burrows, etc. when occupied
0%	Using flushing bars
50%	Maintaining patchy areas on the range
20%	Seeding fall seeded crops
70%	Maintaining shelterbelts and natural trees
80%	Limiting chemical use around water bodies or leaving buffer zones
50%	Removing exotic weeds
70%	Limiting environmental disturbance from oil and gas development
60%	Restoring/Not draining wetlands
40%	Limiting grazing around wetlands
90%	Resting pastures after use to restore forage
70%	Keeping land under permanent cover
50%	Avoid planting invasive tame grasses next to native range
50%	Using zero or minimal tillage

Landowners motivating factors for considering SAR on their land

Freq.	Reasons
70%	Personal pride in being steward
40%	Recognition of being a steward
20%	Financial benefits
40%	More sustainable operation
90%	Doing my part for the future
10%	Feel good about functional ecosystem
10%	Involved in holistic management
10%	Like having and seeing SAR on landscape

What participating landowners are willing to share with MULTISAR

Freq.	Options
100%	locations of wildlife species
100%	changes in management practices
100%	implementation of BMP's
100%	positive and negative results since adopting MULTISAR BMP's
100%	range health changes

MULTISAR and the Recovery of Alberta Prairie Species at Risk

Brandy Downey, Alberta Sustainable Resource Development, Fish and Wildlife Division, Lethbridge, Alberta
and
Danielle Cross, Alberta Sustainable Resource Development, Fish and Wildlife Division, Medicine Hat Alberta.

1.0 Introduction

The MULTISAR project provides conservation of multiple Species at Risk (SAR), and associated fish and wildlife, within the Grassland Natural Region (GNR) of Alberta. A key component of the MULTISAR project is to implement the recovery efforts for Endangered and Threatened species in the Grassland Natural Region. To better understand how MULTISAR is addressing the recovery of SAR a review of recovery plans was completed. The recovery plans reviewed included:

- burrowing owl (*Athene cunicularia*), (Alberta Burrowing Owl Recovery Team, 2005)
- northern leopard frog (*Rana pipiens*), Alberta Northern Leopard Frog Recovery Team, 2005)
- ferruginous hawk (*Buteo regalis*) (Alberta Ferruginous Hawk Recovery Team, 2007)
- swift fox (*Vulpus vulpus*), (Alberta Swift Fox Recovery Team, 2006)
- greater sage grouse (*Centrocercuc urophasianus*) (Alberta Sage Grouse Action Group, 2005)
- Ord's kangaroo rat (*Dipodomys ordii*), (Ord's Kangaroo Rat Recovery Team, 2005)
- western silvery minnow (*Hybognathus argyritis*) (Alberta Western Silvery Minnow Recovery Team, 2007)
- western blueflag (*Iris missouriensis*), (Canada Western Blueflag Maintenance/Recovery Team, 2002)
- western spiderwort (*Tradescantia occidentalis*), (Western Spiderwort Recovery Team, 2004)
- St Mary's sculpin (*Cottus bairdi*), (ESCC, 2004b)
- stonecat (*Noturus flavus*), (ESCC, 2004c)
- peregrine falcon (*Falco pergrinus*), (Alberta Peregrine Falcon Recovery Team, 2005)
- soapweed (*Yucca glauca*) and yucca moth (*Tegeticula yuccasella*), (Alberta Soapweed and Yucca Moth Recovery Team, 2006)
- small-flowered sand verbena (*Tripterocalyx micranthus*), (ESCC, 2003)
- short-horned lizard (*Phrynosoma douglasii*), (ESCC, 2004a)

A review was done of the recovery actions that have been or will be addressed by MULTISAR for each species, how MULTISAR addresses the recovery action and our measures of success.

2.0 Burrowing Owl

2.1 Strategy: *Rangeland Management and Stewardship: Determine Beneficial Management Practices (BMP's) and encourage stewardship using the best available knowledge to enhance the quality of burrowing owl habitat and increase burrowing owl densities.*

Actions as Identified in the Recovery Plan	MULTISAR's Contribution	Measure of Success
1. Continue to promote public reporting system to identify occupied sites for burrowing owls.	• All information collected through the Habitat Conservation Strategey (HCS) and Species at Risk Conservation Plan (SARC Plan) program has been entered into FWMIS.	• MULTISAR has recorded 38 burrowing owl sightings and reported them to FWMIS since 2002.
2. Promote Habitat Conservation Programs in support of private landholders.	• MULTISAR is a conservation program designed for landholders with SAR on their land. • MULITSAR works cooperatively with other Non-government organizations	• MULTISAR has directly contacted over 200 landholders about the species.
3. Work with landholders and other stakeholders to develop and implement Beneficial Management Practices (BMP's) for burrowing owls.	• In 2004 MULTISAR developed BMP's for the species. • Implemented BMP's in the Milk River Basin (MRB) through the HCS program • Implemented BMP's throughout the GNR through the SARC Plan program.	• Developed BMP's which have been endorsed by the Recovery Team. • Distributed BMP brochures to 10 landholders throughout the GNR. • Implemented burrowing owl BMP's on over 26,000 acres of land.
4. Ensure adequate numbers and distribution of nest burrows (badgers and ground squirrels). 5. Ensure adequate habitat to support prey populations.	• Developed BMP's for keystone species. • Monitors ground squirrel populations throughout the GNR and through the HCS program. • Encourages landholders to provide habitat for keystone species through the HCS and SARC Plan program.	• Specifically managed habitat for keystone species on 14,547 acres. • MULTISAR team has maintained over 200,000 acres of native prairie habitat for use by keystone species.

5.1 Inform land managers of burrowing owls' preference for a mosaic of range regimes.	The MULTISAR program promotes a mosaic of range regimes and grass heights through: 1. MULTISAR BMP's 2. HCS 3. SARC Plan 4. MULTISAR's education and extension program	• HCS program 44,000 acres by March 2009. • SARC Plan program 7500 acres • 10 of burrowing owl BMP brochures distributed.
6. Conserve and manage habitat for a diversity of species including burrowing owls.	• MULTISAR is a multi-species management program that encourages management for habitat for over 17 species at risk.	• 8 HCS will be completed by March 2009. • 7 SARC Plans have been completed to date.

2.2 Strategy: Retaining or Increasing Habitat: Develop and encourage the implementation of policies and programs that retain or increase the amount of burrowing owl habitat.

Actions as Identified in the Recovery Plan	**MULTISAR's Contribution**	**Measure of Success**
1.0 Develop and encourage incentives for landholders and other to conserve burrowing owls. 1.1 Identify and recommend landuse policy and practices that encourage enhancements of burrowing owl habitat or minimize impacts of industrial developments. 1.3 Encourage the use of guidelines and other provisions to buffer owl nests from activities of industry to reduce the loss of owl habitat and reduce disturbance to owls.	• Incentives are provided to landholders through the HCS program and the purchasing of range improvements. • Information on the effects of industrial developments are included in all HCS and SARC Plan. • Developed an Industrial Development brochure for landholders. • Working on developing Protective Notations (PNT's) on all HCS lands.	• 20 plus improvements developed through the MULTISAR program using incentives from other NGO's and existing government programs. • Over 200 landholders have been given information on industrial developments.
1.2 Examine agricultural programs to ensure that they conserve burrowing owls, other prairie wildlife and their natural habitats as well as modify programs to	• Works on both private and public land • Uses the concept of "Natural Variation". • Promotes habitat connectivity • Promotes reseeding projects in marginal areas surrounded by native prairie.	• 26,055 of acres conserved for burrowing owls through the HCS program. • 160 acres are currently

encourage maintenance of native prairie and the restoration of cropland to pasture. Balance the needs of burrowing owls, sound range management and the needs of the landholder and other wildlife. 3. Develop programs to manage burrowing owl habitat on land controlled by all levels of government. 5. Increase the area and enhance the quality of burrowing owl habitat through increasing grassland patch sized and reducing grassland fragmentation.	• MULTISAR is partnered with ASRD and ACA, with funds from the Alberta Innovation Program and Government of Canada Habitat Stewardship Program. Representing that all levels of government have involvement in the MULTISAR project.	being reseeded to native cover. An additionally 640 acres is in the development phase. • Over 200,000 acres are currently being maintained as native grassland by MULTISAR • Maintained successful partnerships between agencies.
2. Ensure integrated land management planning processes include burrowing owl conservation issues. 4.1 Identify essential habitat that must be managed to achieve population goals. 4.3 Identify and map suitable and potentially suitable burrowing owl habitat.	• Developed Habitat Suitablility Index model • Assisted in developing a user friendly tool to ID areas of high priority for the burrowing owl	• MULTISAR developed the HSI model. • HSI tool available for use by all prairie region biologists with plans to have it on the ASRD website as soon as possible.

2.3 Strategy: Public Education and Awareness: Increase support of the burrowing owl and prairie conservation through public education and awareness program.

Actions as Identified in the Recovery Plan	**MULTISAR's Contribution**	**Measure of Success**
1. Increase general public awareness of native rangelands, the burrowing owl and related prairie conservation issues through	• Employs an education coordinator • Develops educational materials and presentations. • Developing a youth education program with the PCF and Alberta Parks.	• 10 BMP's brochures delivered to private landholders. • 7 SARC Plans completed

existing programs. 2. Use information and extension to encourage habitat conservation and develop a public awareness of factors affecting burrowing owls. 3. Inform landholders of incentive programs and conservation partnerships available.		• 11 presentation /public meetings held for private landholders, government agencies, watershed groups and school groups by MULTISAR.

2.4 Strategy: Population Monitoring: Monitor populations of burrowing owls.

Actions as Identified in the Recovery Plan	**MULTISAR's Contribution**	**Measure of Success**
1. Develop and maintain a database of annual population reports from burrowing owl nest sites to monitor annual population and distribution changes.	• All information collected through the HCS and SARC Plan programs has been entered into FWMIS.	• 38 sightings entered into FWMIS since 2002 by MULTISAR.

2.5 Burrowing Owl Summary

The MULTISAR program goals and objectives are closely aligned to many of the key action items identified in the Burrowing Owl Recovery Plan. MULTISAR is a valuable tool in achieving action objectives of the recovery plan; in particular the objectives pertaining to landholder education, maintenance of native prairie habitat, retention of burrows and keystone species and multi-species conservation on the prairie. In 2007 The Burrowing Owl Recovery Team endorsed the MULTISAR BMP's for use throughout the province. The MULTISAR project should continue to be used as a key tool in delivering the objectives of the Burrowing Owl Recovery Plan.

3.0 Northern Leopard Frog

3.1 Strategy: Population and Habitat Monitoring

Actions as Identified in the Recovery Plan	MULTISAR's Contribution	Measure of Success
1. Design and complete surveys in 2005.	• MULTISAR participated in the 2005 northern leopard frog inventory.	• MULTISAR completed inventories at 32 sites
3. Conduct annual spring inventories to identify specific breeding sites.	• MULTISAR inventories key areas of the Milk River Basin for evidence of breeding each year. • Most inventories occur through the HCS and SARC Plan programs.	• One of the MULTISAR sites was used for reintroduction in 2005 for the Magrath Project. • A total of 36 sites have been monitored by MULTISAR since 2004.
4. Conduct targeted surveys each year to search for previously unknown frog populations in areas where information indicates possible presence of northern leopard frog.	• All potential northern leopard frog ponds are identified and surveyed for the species for each HCS.	• One population that was originally recorded as declining has been found to be a productive population through MULTISAR surveys.

3.2 Strategy: Habitat Monitoring and Protection.

Actions as Identified in the Recovery Plan	MULTISAR's Contribution	Measure of Success
3. Make contact with landholders on private/leased land that support northern leopard frogs.	The MULTISAR education and outreach program provides information on • the importance of maintaining habitat for SAR, • how SAR affect the prairie ecosystem • and what they can do to help SAR	• Developed BMP's brochure for wetland species.
4. Direct management of sites to alleviate threats through cooperative agreements with landholders or other initiatives.	• Developed BMP's for the species. • Implements BMP's through the HCS and SARC Plan programs. • Signs agreements with HCS landholders.	• 360 acres of land/wetlands have been conserved for northern leopard frogs through the MULTISAR HCS program.

3.3 Strategy: Information and Outreach

Actions as Identified in the Recovery Plan	MULTISAR's Contribution	Measure of Success
4. Provide information on leopard frogs-related topics to technical and non-technical audiences through presentations, signage and other mechanisms.	• Developed and distributed wetland BMP brochures. • Provided information through public meetings, and school field trips.	• 10 presentations that included the northern leopard frog (including 2 school group tours of leopard frog sites)

3.4 Northern Leopard Frog Summary

MULTISAR has contributed to the recovery of the northern leopard frog through three key actions, monitoring, direct management of habitat and education. The MULTISAR project plans to continue to assist the recovery of this species through these actions.

4.0 Ferruginous Hawk

Actions as Identified in the Recovery Plan	MULTISAR's Contribution	Measure of Success
Ferruginous Hawk Habitat Management - includes actions required for the protection of existing habitat, habitat improvements and restoration of habitat.	• Provides management information to landholders through the HCS and SARC Plan programs. • Maintains native habitat. • Works cooperatively with Alberta Public Lands to manage native prairie for the species. • Developed and implemented species BMP's. • Reseeding native prairie in marginal croplands.	• 15,000 acres through the HCS program for ferruginous hawks. • 26,055 acres are being managed for the ferruginous hawks main prey, the ground squirrel. • 2 nest poles have been installed on MULTISAR landholder's land. • 160 acres of marginal cropland is being reseeded back to native grasslands for SAR.
Reduction of Human Disturbances – addresses actions needed to reduce human disturbances.	• HCS reports include ferruginous hawk guidelines. • SARC Plan include ferruginous hawk guidelines. • Developed industrial guideline brochure.	• 4 HCS plans have been completed. • Another 4 HCS plans are in the works. • Developed industrial brochure

Reduction of Human-Caused Mortality – includes actions needed to reduce collision-caused mortality as well as persecution.	• Promotes the importance of species at risk for pest control. • Works with landholders to understand that species at risk are a positive not a negative to their operation.	• MULTISAR has contacted over 200 landholders since 2002, developed the *At Home on the Range, Living with Species at Risk Guide* (over 2000 distributed), and completed 7 SARC Plan plans.
Ferruginous Hawk Prey Management – includes actions related to retention of ferruginous hawk prey populations and habitat.	• Developed BMP's for the ground squirrel • Monitors ground squirrel populations throughout the GNR, and through the HCS and SARC Plan programs. • Encourages tolerance of ground squirrel populations.	• Richardson's ground squirrels on 14,547 acres. • Has maintained over 200, 000 acres of native prairie habitat for use by keystone species. • MULTISAR has participated in the ground squirrel monitoring since 2003.
Ferruginous Hawk Population Monitoring – outlines population surveys needed to monitor success or failure of recovery actions over time.	• Participate in the annual and 5-year inventory surveys for the ferruginous hawk. • Records all incidental sightings and nest locations and enters the information into FWMIS.	• Complete approximately 15 ferruginous hawk quadrats each year and 35 of the quadrats in the provincial monitoring year. • 266 sightings have been entered into FWMIS
Information and Outreach – Outlines information, outreach, and extension actions needed to increase awareness regarding ferruginous hawk recovery and conservation needs, some of which are multi-species or landscape based, and benefit other grassland-based species as well.	• Employs an education coordinator. • Developed BMP brochures for landholder use. • Developing a youth education program • Focuses on the importance of maintaining native habitat, natural pest control for ground squirrels, and key roles of SAR in the grasslands. • Provides information to landholders through the SARC Plan and HCS programs.	• 7 SARC Plans completed and delivered to private landholders. • 11 presentation/public meetings held for private landholders, government agencies, watershed groups and school groups by MULTISAR.

4.1 Ferruginous Hawk Summary

The MULTISAR program goals and objectives are closely aligned to many of the key action items identified in the Ferruginous Hawk Recovery Plan. In particular MULTISAR is key to achieving objectives related to landholder education, maintenance of native prairie habitat, retention of nest sites and keystone species and multi-species conservation on the prairie. The MULTISAR project should continue to be used as a key tool in delivering the objectives of the Ferruginous Hawk Recovery Plan.

5.0 Swift Fox

5.1 Strategy: Goal 1.0. Enhance and maintain habitat for swift foxes to satisfy life cycle requirements.

Actions as Identified in the Recovery Plan	MULTISAR's Contribution	Measure of Success
1.1 Place protections on all known current swift fox dens and eliminate disturbance of known den sites by 2007.	• MULTISAR contributes data to FWMIS database through the HCS and SARC Plan programs.	• 1 den site has been entered into FWMIS.
1.3 Increase habitat area protected by stewardship providing for a sustainable ranching industry and high quality habitat by 2011.	• MULTISAR encourages voluntary stewardship particularly within its HCS program.	• The HCS program is currently working on over 200,000 acres.

5.2 Recovery Strategy: Goal 4.0 Communicate information about swift foxes to land managers, industry, trappers, recreational users and other relevant parties in the areas for the purpose of fostering stewardship of the species and its habitat.

Actions as Identified in the Recovery Plan	MULTISAR's Contribution	Measure of Success
4.1 Develop and disseminate an information package for outreach and education aimed at land managers, industry, trappers and recreational users by 2008.	Developed Burrowing mammal BMP brochure *Home on the Range: Living with Alberta's Prairie Species At Risk Guide* have been developed which provide information on the swift fox.	• Over 2000 *At Home on the Range: Living with Alberta's Prairie Species at Risk Guides* have been distributed. • 10 Burrowing mammals BMP's distributed.
4.3 Integrate swift fox biology and conservation	• Currently developing a youth education program for species at risk that could be	• MULTISAR has completed 2 school

information, along with other SAR and prairie conservation information, into local and provincial school curricula by 2008.	tied to the curriculum with PCF and Alberta Parks.	presentations.
4.4 Disseminate information regarding Alberta SAR program illustrating potential benefits of stewardship activities for landowners by 2007.	• MULTISAR is working to help landholders benefit from SAR. This is achieved through partnerships, education about sustainable ranching practices and incentives.	• Since 2002 MULTISAR has contacted over 200 landholders. • Over 2000 *At Home on the Range: Living with Alberta's Prairie Species at Risk* have been distributed to landholders and land managers.

5.3 Swift Fox Summary

MULTISAR is contributing to many of the action items listed in the swift fox recovery plan and has even been listed in the Recovery Plan under a few actions as a means of achieving an objective. This is positive as it shows MULTISAR's ability to work as a tool for SAR in Alberta's Grassland Natural Region.

6.0 Sage Grouse

6.1 Strategy: Goal 1. Enhance and maintain habitat for sage grouse to satisfy life cycle requirements in support of a viable population within its remaining historical range.

Actions as Identified in the Recovery Plan	**MULTISAR's Contribution**	**Measure of Success**
1.1 Protect known current and historical lek sites and maintain or enhance effectiveness of lek and adjacent potential essential habitat.	• All sage grouse sightings are entered into FWMIS. • The HCS program will protect habitat in and around active sage grouse leks.	• MULTISAR has participated in the annual lek counts every year sine 2005.
1.2 Create net increase in brooding, rearing and wintering habitat.	• Currently MULTISAR is working on reclamation projects to return cultivated lands back to native grasslands.	• So far 160 acres are in the process of being reclaimed with potential for another 640 acres in the future.

1.3 Manage for appropriate range health for sage-grouse on grazing leases as determined by Alberta Public Lands and Forests Division.	• Range Health Assessments are completed for all HCS plans. • Range and wildlife correlations are completed for each HCS.	• Range health scores and vegetation inventories have been applied to or conducted on over 93,000 acres through the 4 completed HCSs. An additional 120,000 acres are on course to be completed by 2009.
1.4 Encourage management for appropriate range health for sage-grouse needs on private lands. 1.5 Restore or enhance habitat quality through appropriate range management practices. 1.7 Disseminate information about effects of industrial activities, grazing practices and recreational activities on sage-grouse habitat.	• Where sage-grouse are present on HCS landholdings MULTISAR will make appropriate range health recommendations, and industrial recommendations to manage for the species.	• Developing 2 HCS's that will manage habitat directly for the sage grouse.

6.2 Sage Grouse Summary

MULTISAR continues to play a role in the recovery of greater sage-grouse in Alberta. Within the Recovery Plan almost all actions where Alberta Fish and Wildlife or Alberta Public Lands are listed as the lead, MULTISAR has a role. This includes monitoring, the habitat, the species and education. MULTISAR will continue to assist with the recovery of sage-grouse in Alberta.

7.0 Ord's Kangaroo Rat

7.1 Recovery Strategy: *Population and Conservation Management*

Actions as Identified in the Recovery Plan	**MULTISAR's Contribution**	**Measure of Success**
3. Encourage landholders and other stakeholders to implement management activities to mitigate or minimize effects of anthropogenic activities that	• Through the SARC Plan program landholders will be encouraged to implement BMP's and management changes that maintain the species habitat and potentially the population.	• MULTISAR has not directly worked with a landholder on this specific species.

result in fluctuations in population size.		

7.2 Recovery Strategy: Habitat and Conservation Management

Actions as Identified in the Recovery Plan	MULTISAR's Contribution	Measure of Success
8. Encourage implementation of agriculture BMP's with in the range of the Ord's kangaroo rat.	• Once available MULTISAR has agreed to implement BMP's for the species through the SARC Plan program. • BMP brochures will be designed by MULTISAR.	• Currently BMP's are being developed for the species by other organizations.
11. Contact private landholders within the range of the species and provide information on programs and incentives to maintain and restore native prairie habitat and information on the species and its habitat requirements.	• MULTISAR will be contacting landholders in the range of the species • Information on the species and its habitat requirements will be distributed to landholders. • *At Home on the Range: Living with Alberta's Prairie Species at Risk* guides identifies the importance of native prairie maintenance and restoration.	• Sent mail outs to 50 landholders in the Jenner area. • Over 2000 *At Home on the Range: Living with Alberta's Prairie Species at Risk* guides have been distributed.
12. When necessary government and non-government will assist landholders to manager their lands through the provision of improvements.	• MULTISAR will link landholders with appropriate funding agencies. • MULTISAR can be used as expert advice to install improvements	• Currently no improvements have been completed for this species.
13. If deemed successful, habitat restoration may be encouraged on private land using established protocols.	• MULTISAR will use the protocols in areas were SARC Plan have identified the need for habitat restoration.	• Currently no protocols exist for habitat restoration for the species.

7.3 Recovery Strategy: Education and Information

Actions as Identified in the Recovery Plan	MULTISAR's Contribution	Measure of Success
3.3 Develop fact sheet on managing sand dune habitat in ways that maintain or enhance habitat for Ord's kangaroo rats.	• MULTISAR will develop a BMP's brochure for the species identifying the BMP's that will result in habitat for the species.	• Currently waiting on the completion of BMP's for the species.
4. Encourage educational	• MULTISAR is currently working with	• Currently being

outreach on kangaroo rats and their conservation requirements, and the importance of research in conservation and recovery	PCF and Alberta Parks to develop a youth education program. • Webcasts, brochures and posters developed for the youth program may include this species.	developed.

7.4 Ord's Kangaroo Rat Summary

The Ord's kangaroo rat was not one of MULTISAR's focal species due to the fact that the species does not occur in MULTISAR's core area (Milk River Basin). As the project has now expanded outside of the basin boundaries to the Grassland Natural Region the species may become part of the MULTISAR project. As such the MULTISAR team may apply BMP's that are developed by the Recovery Team, use educational materials developed for the species by other groups and speak about the species during public meetings in key areas for the Ord's kangaroo rat.

8.0 Western Silvery Minnow

8.1 Recovery Strategy: Education and Outreach

Actions as Identified in the Recovery Plan	MULTISAR's Contribution	Measure of Success
E.1 Improve awareness of the species:	• MULTISAR will continue to inform private landholders bordering the Milk River of the existence of the species. • HCS and SARC Plan will be completed for landholders along the Milk River.	• Met with over 180 landholders in the Milk River area. • 2 HCS border the Milk River
E.2 Encourage stakeholder participation	• MULTISAR completes HCS and SARC Plan in the Milk River area. • HCS and SARC Plan involve the landholder in developing stewardship approaches are their land.	• 5 landholders (accounting for ~110,000acres) surrounding the Milk River have participated in MULTISAR.
E.4 Discourage species introduction.	• The MULTISAR Wetland BMP's Brochure explains the issues related to the introduction of non-native fish to the river. • Landholders are discouraged from introducing fish species not native to their area though the SARC Plan program.	• Developed wetland brochure.

8.2 Western Silvery Minnow Summary

MULTISAR has worked with the Western silvery minnow since 2002. The MULTISAR project helped to fund preliminary research on the species in the Milk River in 2002-2003 and 2005-2006. This information was used by the Recovery Team in the development of this plan. MULTISAR may contribute to future research of the species however is currently focused on voluntary stewardship initiatives. MULTISAR will continue to promote appropriate BMP's along the Milk River to protect the river and fish within it.

9.0 Other Species Recovery Plans

9.1 Western Blueflag

Western blueflag was the first species to have a completed recovery plan in Alberta. The majority of the inventory, stewardship and educational work were completed between 2002-2005 through the Western Blueflag Project. In 2005 the Western Blueflag Project merged with MULTISAR. Today the monitoring component is addressed through the MULTISAR project. MULTISAR is currently monitoring 4 watering improvements, 3 reseeding projects, and 2 fencing changes completed as part of the Western Blueflag Program.

9.2 Western Spiderwort

In the future MULTISAR plans to work directly with the western spiderwort team to develop habitat management plans for the 4 landholders with known populations of western spiderwort. This will be done through the MULTISAR SARC Plans. Site specific recommendations will be made for each landholder based on the BMP's completed by one of the ASRD-MULTISAR biologist in cooperation with ACA and the ASRD Recovery Team lead.

Additionally habitat information will be collected for each ranch and recommendations that do not conflict with the recovery of western spiderwort will be made to conserve habitat for multiple SAR. MULTISAR will be a key component in delivering the Habitat Conservation and Education and Outreach objective of the plan.

9.3 Peregrine Falcon

The peregrine falcon is monitored through an on-going monitoring program developed by the Recovery Team. The species decline is attributed to pesticides versus habitat los and disturbance. As such the work that MULTISAR can do to assist in the recovery of this species is limited. The MULTISAR program will continue to monitor historical nesting sites in the core area (Milk River Basin) and track sighting of the peregrine falcon by team members. All sightings will be reported to FWMIS annually. Additionally when

applicable educational presentations may include information on the peregrine falcon; however this will be limited to areas where the species naturally occurs.

9.4 Soapweed/Yucca Moth

Grazing BMP's for the Soapweed are currently being completed by a MULTISAR team member with ASRD-F&W. These BMP's will be utilized by the team on both Soapweed and Yucca moth sites. MULTISAR may in the future contribute to fencing projects related to the implementation of these BMP's.

9.5 St. Mary's Sculpin and Stonecat

The St. Mary's sculpin and stonecat are two of the three fishes that are being addressed through the Milk River Basin Three Fishes Recovery Team. Formal recovery plans have not been developed for these species yet. However MULTISAR assisted in funding preliminary research on the species in 2002-2003 and 2005-2006. The information collected during these inventories is being used by the team to determine what habitats are important to the species, where they occur with in the Milk River and population estimates. MULTISAR plans to continue supporting the recovery team through these initiatives as funding allows.

10.0 Recently Legislated Species

10.1 Small-flowered sand verbena

Currently there is no recovery plan for small flowered sand verbena because presently it lacks the status necessary to initiate the development of a recovery plan. An Initial Conservation Action Statement (ICAS) has been submitted to the Minister of Sustainable Resource Development based on recommendations from the Endangered Species Conservation Committee (ESCC). Within this ICAS the ESCC recommended the following initial conservation responses:

1. Establish a legal designation of "Threatened" for small flowered sand verbena within Schedule 6 of the *Wildlife Regulation* (AR 143/97).
2. Preparation of a recovery plan for small flowered sand verbena by Alberta Sustainable Resource Development.
3. Invite representatives from ASRD – Fish and Wildlife, Public Lands and Forestry Divisions, Alberta Energy, local grazing associations, Alberta Native Plant Council and Department of National Defence (Suffield) to participate in the planning and implementation of recovery for sand verbena in Alberta.
4. Implementation of policy and management needed to protect small-flowered sand verbena following the development and carrying out of an Alberta Recovery Plan for the species.
5. Locate sufficient new resources to facilitate the operation of the Recovery Team and conservation actions.

Details listed under the third point in the original document state that the recovery team representatives should consider planning, inventory and management approaches that consider a variety of species. MULTISAR already approaches conservation with a multiple species approach so perhaps a representative from MULTISAR should be apart of this team and potentially assist with conservation of small-flowered sand verbena in some manner. MULTISAR is committed to SAR within the GNR of Alberta, as such if resources permit and there are actions within the pending Recovery Plan for small-flowered sand verbena that MULTISAR could assist with, a partnership should be formed.

10.2 Short-horned lizard

Currently there is not a recovery plan for short-horned lizard in Alberta. An Initial Conservation Action Statement (ICAS) has been submitted to the Minister of Sustainable Resource Development based on recommendations from the Endangered Species Conservation Committee (ESCC). Within this ICAS the ESCC recommended the following initial conservation responses:

1. Establish a legal designation of "Endangered" for short horned lizard within *Alberta Wildlife Regulation* (AR 143/97).
2. Preparation of a recovery plan by ASRD.
3. Establish Recovery Team with broad range of stakeholders. May include representatives from ASRD – Fish and Wildlife, Public Lands and Forestry Divisions, Alberta Agriculture Food and Rural Development, oil and gas industry, mining industry, local grazing community, municipalities and Alberta conservation groups.
4. ASRD to initiate studies and develop standardized surveying methodology and regime.
5. Locate sufficient new resources for population monitoring and assessment and recovery planning effort.

Presently, MULTISAR surveys for short-horned lizards when appropriate habitat is observed on MULTISAR Habitat Conservation Strategy lands. Since 2002 24 lizards have been observed and entered in the FWMIS database. Not included in this ICAS is the development of BMP's for short-horned lizards in Alberta. Within MULTISAR's *Beneficial Management Practices for the Milk River Basin, Alberta* document printed in 2004 is a list of general, industrial and grazing based BMP's applicable to short-horned lizards.

11.0 Program Summary

The MULTISAR program has successfully assisted in the implementation of many SAR recovery plans. MULTISAR is an important tool in education and outreach initiatives,

implementation of BMP's and in monitoring of SAR in prairie Alberta. Additionally the multi-species aspect of MULTISAR allows for several species recovery actions to be included in one initiative, thus decreasing the cost of implementing these actions and possible conflicts between different SAR and their recovery.

Continued cooperation between Recovery Teams, the SAR Program and MULTISAR is essential to ensure the timely implementation of the necessary recovery actions for several SAR. To facilitate the process Recovery Team leads should communicate with MULTISAR during the plan development and identify what aspects of the plan can be achieved through MULTISAR or multi-species initiatives. Multi-species initiatives may not be compatible with the recovery of all species but should be used whenever possible.

MULTISAR will continue to be a key tool in the implementation of SAR recovery plans. Ensuring funding for this important program will assist in the recovery of multiple SAR in Alberta.

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Future Direction

Brandy Downey, Alberta Sustainable Resource Development-Fish and Wildlife Division, Lethbridge, Alberta

2007-2008 was a successful year for the MULTISAR program. MULTISAR expanded its influence from the Milk River Basin to the entire Grassland Natural Region, hired 3 new temporary staff members, implemented Beneficial Management Practices in high priority areas, expanded the Multi-species Conservation Value to the entire Grassland Natural Region, developed a rapid assessment process for species at risk habitat, and implemented the new MULTISAR education program.

In the next year MULTISAR strives to:

- Complete work on four Habitat Conservation Strategies (~ 100,000 acres) in areas of high priority as selected by the multi-species conservation value (MCV).
- Initiate/continue to implement HCS implementation plans on 180,000 acres of high priority lands. This will include development of new off site watering systems, native seeding projects and nest site protection systems.
- Develop a minimum of 40 Species at Risk Conservation Plans (SARC Plans) or 70,000 acres in key areas around Hanna, the Special Areas, South Saskatchewan River and Milk River Basin as selected by the MULTISAR MCV. The SARC Plans will focus on the implementation of BMP's in key areas for MULTISAR focal species.
- Develop a self serve SARC Plan on the MULTISAR webpage and through the development of a guidebook.
- Implement a youth education program in conjunction with Alberta Parks and Tourism and the Prairie Conservation Forum that focuses on the importance of native prairie conservation, species at risk (SAR) and importance of these to Alberta society and economy.
- Implement the Socioeconomic research project in the Grassland Natural Region (GNR) that will evaluate the ecological, social and economic values of the MULTISAR focal species.
- Review and retool the Habitat Suitability Index (HSI) Models based on the new digital variables available through the Grassland Vegetation Inventory (GVI).
- Develop a long term funding strategy for the MULTISAR program.

These initiatives will assist in the conservation of key habitats for SAR, management of native grasslands and the development of a long term strategy for the MULTISAR program.

For more information on MULTISAR please go to our website:

www.multisar.ca

For more information on the Alberta Fish and Wildlife Division-Species at Risk Series please go to our website
http://srd.alberta.ca/fishwildlife/speciesatrisk/projectreports.aspx

Appendix H: List of Acronyms

ACA	Alberta Conservation Association
ASRD - F&W	Alberta Sustainable Resource Development - Fish and Wildlife
ASRD - Lands	Alberta Sustainable Resource Development - Lands
BMP	Beneficial Management Practice
FWMIS	Fish and Wildlife Management Information System
GIS	Geographic Information System
GNR	Grassland Natural Region
GPS	Global Positioning System
GVI	Grassland Vegetation Inventory
HCS	Habitat Conservation Strategy
HSI	Habitat Suitability Index
IP	Innovation Program
MAC	Management Advisory Committee
MCV	Multi-Species Conservation Value
MRB	Milk River Basin
NCC	Nature Conservancy of Canada
NGO	Non-Government Organization
OWC	Oldman Watershed Council
PCF	Prairie Conservation Forum
PNT	Protective Notation
RANA	Researching Amphibian Numbers in Alberta
SAR	Species at Risk
SARC Plan	Species at Risk Conservation Plan
SHARP	Southern Headwaters At Risk Project
VOR	Visual Obstruction Reading

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